CANADIAN THESES ON MICROFICHE

I.S.B.N.

THESES CANADIENNES SUR MICROFICHE

National Library of Canada
Collections Development Branch

Canadian Theses on
Microfiche Service

Ottawa, Canada
K1A 0N4

Bibliothèque nationale du Canada
Direction du développement des collections

Service des thèses canadiennes
sur microfiche

NOTICE

The quality of this microfiche is heavily dependent upon the quality of the original thesis submitted for microfilming. Every effort has been made to ensure the highest quality of reproduction possible.

If pages are missing, contact the university which granted the degree.

Some pages may have indistinct print especially if the original pages were typed with a poor typewriter ribbon or if the university sent us a poor photocopy.

Previously copyrighted materials (journal articles, published tests, etc.) are not filmed.

Reproduction in full or in part of this film is governed by the Canadian Copyright Act, R.S.C. 1970, c. C-30. Please read the authorization forms which accompany this thesis.

THIS DISSERTATION
HAS BEEN MICROFILMED
EXACTLY AS RECEIVED

AVIS

La qualité de cette microfiche dépend grandement de la qualité de la thèse soumise au microfilmage. Nous avons tout fait pour assurer une qualité supérieure de reproduction.

S'il manque des pages, veuillez communiquer avec l'université qui a conféré le grade.

La qualité d'impression de certaines pages peut laisser à désirer, surtout si les pages originales ont été dactylographiées à l'aide d'un ruban usé ou si l'université nous a fait parvenir une photocopie de mauvaise qualité.

Les documents qui font déjà l'objet d'un droit d'auteur (articles de revue, examens publiés, etc.) ne sont pas microfilmés.

La reproduction, même partielle, de ce microfilm est soumise à la Loi canadienne sur le droit d'auteur, SRC 1970, c. C-30. Veuillez prendre connaissance des formules d'autorisation qui accompagnent cette thèse.

LA THÈSE A ÉTÉ
MICROFILMÉE TELLE QUE
NOUS L'AVONS REÇUE

NL-339 (r. 82/08)

Canada

196 0-315-16104-3

National Library
of Canada

Canadian Theses Division

Ottawa, Canada
K1A 0N4 64013

Bibliothèque nationale
du Canada

Division des thèses canadiennes

PERMISSION TO MICROFILM — AUTORISATION DE MICROFILMER

- Please print or type — Écrire en lettres moulées ou dactylographier

Full Name of Author — Nom complet de l'auteur
Marcia Marie Doucet

Date of Birth — Date de naissance 4.10.47	Country of Birth — Lieu de naissance Canada

Permanent Address — Résidence fixe
Box 855, Petit Rocher Nord, New Brunswick

Title of Thesis — Titre de la thèse
Task Autonomy And Job Satisfaction Among Clinical Physiotherapists

University — Université
University of Alberta

Degree for which thesis was presented — Grade pour lequel cette thèse fut présentée
MA

Year this degree conferred — Année d'obtention de ce grade Spring, 1983	Name of Supervisor — Nom du directeur de thèse Dr. T. H. White.

Permission is hereby granted to the NATIONAL LIBRARY OF CANADA to microfilm this thesis and to lend or sell copies of the film.

The author reserves other publication rights, and neither the thesis nor extensive extracts from it may be printed or otherwise reproduced without the author's written permission.

L'autorisation est, par la présente, accordée à la BIBLIOTHÈQUE NATIONALE DU CANADA de microfilmer cette thèse et de prêter ou de vendre des exemplaires du film.

L'auteur se réserve les autres droits de publication; ni la thèse ni de longs extraits de celle-ci ne doivent être imprimés ou autrement reproduits sans l'autorisation écrite de l'auteur.

Date November 30, 1982	Signature Marcia Doucet

NL-91 (4/77)

THE UNIVERSITY OF ALBERTA

Task Autonomy And Job Satisfaction Among Clinical Physiotherapists

by

Ⓒ Marcia Marie Doucet

A THESIS
SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE
OF Master Of Arts

Department of Sociology

EDMONTON, ALBERTA
Spring, 1983

micko

THE UNIVERSITY OF ALBERTA

RELEASE FORM

NAME OF AUTHOR Marcia Marie Doucet

TITLE OF THESIS Task Autonomy And Job Satisfaction Among Clinical Physiotherapists

DEGREE FOR WHICH THESIS WAS PRESENTED Master Of Arts

YEAR THIS DEGREE GRANTED Spring, 1983

Permission is hereby granted to THE UNIVERSITY OF ALBERTA LIBRARY to reproduce single copies of this thesis and to lend or sell such copies for private, scholarly or scientific research purposes only.

The author reserves other publication rights, and neither the thesis nor extensive extracts from it may be printed or otherwise reproduced without the author's written permission.

(SIGNED) Marcia Doucet

PERMANENT ADDRESS:

Box 855
Petit Rocher Nord
New Brunswick

DATED November 30 1982

THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled Task Autonomy And Job Satisfaction Among Clinical Physiotherapists submitted by Marcia Marie Doucet in partial fulfilment of the requirements for the degree of Master Of Arts.

....

Supervisor

K. R. ....

John E. Temple ....

Date 22 Nov. 82

Dedications

For

Mrs. B. Goff, O.N.C., M.C.S.P., Dip.T.P.
A clinician and educator who values the practice of physiotherapy as a science and an art. Her thorough treatment plans and kindness towards patients continue to be a source of inspiration.

M. et Mme. H. Doucet

En memoire de mes grands-parents, M. et Mme. Ambrose Brown de Jacquet River, Nouveau Brunswick, et M. et Mme. Joseph Doucet de Petit Rocher Nord, Nouveau Brunswick.

Abstract

The major purpose of this research is to examine whether existing job controls present in many physiotherapy work settings are strongly correlated with variations in job satisfaction levels of non-supervisory physiotherapists. A discussion of salient occupational issues indicates that restricted task autonomy and few clinical career options may be two factors associated with lowered job satisfaction scores for this group of paramedical employees. Since few empirical job satisfaction studies of university trained rehabilitation personnel have been undertaken, findings from job satisfaction studies of various employee groups are also discussed so that variables found to be significantly correlated with job satisfaction scores of therapists interviewed for this study can be compared with factors reported to be strongly associated with job satisfaction levels of other employees. From the literature review, a research model is developed and hypotheses based on this model which define relationships between variables related to task autonomy and job satisfaction are tested in a three stage statistical analysis.

Results reported in this study indicate that task autonomy is likely to be a relatively weak predictor of job satisfaction levels for clinical physiotherapists. Factors related to career opportunities are found to be more strongly associated with variations in job satisfaction scores of clinicians in the sample. Possible implications of these findings for various physiotherapy occupational issues presented in the literature review are discussed.

It is emphasized that although job turnover rates are relatively high for paramedical employees working in hospital settings, few studies have considered specific factors associated with this indication of lowered job satisfaction. Empirical findings presented in this study appear to suggest that job satisfaction research which focuses on variables related to career structures of hospital-based paramedical groups is more likely to result in an identification of the more important predictors of job satisfaction scores for these employees. In addition, it is suggested that studies of the career option preferences of physiotherapists currently practicing in Canada should be undertaken as Canadian physiotherapy schools are encouraging a development of clinical research but respondents in this sample express little interest in clinical research activity.

Studies which focus on career intentions of married physiotherapists are also recommended as a direction for future research since findings also indicate that there may be a trend in this predominantly female occupation towards greater numbers of therapists working for longer periods without lengthy interruptions due to family commitments.

Acknowledgements

I wish to thank the members of this thesis committee for their guidance, patience and understanding. Although this project has taken a long time to complete, I have acquired basic research skills and a desire to work at becoming a more competent social science investigator.

I also wish to thank Laurent Farley for sharing views based on his history background. It is through our continued discussions and the influence of Dr. T.H. White's more structural and social psychological perspectives that I have been able to begin developing a sociological perspective of my own. This accomplishment alone makes this research experience a worthwhile endeavor.

Table of Contents

Chapter Page

I. Introduction and Review of the Literature 1

A. Introduction 1

Recent Changes in Canadian Physiotherapy Education 2

Emphasis on Physiotherapy Research 3

Why Study Job Satisfaction? 3

B. Literature Review 6

Evidence of Lowered Job Satisfaction Levels Among Physiotherapists 6

Basic Factors Associated With Lowered Job Satisfaction Levels 7

Occupational Status of Physiotherapy 11

Job Satisfaction Relationships Found In Various Occupations 13

Task Autonomy and Job Satisfaction Relationships 18

C. Summary 21

II. Research Problem and Hypotheses 50

A. Introduction 50

B. The Research Model 50

C. The Model Components 52

Formal Education Level 52

Postgraduate Clinical Education 53

Position in the Physiotherapy Job Hierarchy 53

Number of Direct Medical Contacts 54

Task Autonomy 55

Job Satisfaction 56

D. Variable Relationships 57

E. Research Problem 59

Hypotheses 60

F. Summary 63

III. The Sample and Methodology 68

A. Introduction 68
B. Operational Definitions 68
  Formal Education Level 68
  Postgraduate Clinical Education 69
  Position in the Physiotherapy Job Hierarchy 69
  Number of Direct Medical Contacts 70
  Clinical Services Autonomy 70
  Treatment Autonomy 71
  Patient Referral Autonomy 71
  Job Satisfaction 72
C. The Sample 74
  Selection of the Sample 74
  Questionnaire Administration 75
D. Sample Characteristics 76
  Demographic Characteristics 76
  Occupational Characteristics 77
  Formal Education Level and Job Satisfaction Scores 78
  Postgraduate Clinical Education and Job Satisfaction Scores 78
  Position in the Physiotherapy Job Hierarchy and Job Satisfaction Scores 78
  Number of Direct Medical Contacts and Job Satisfaction Scores 84
  Clinical Services Autonomy Level and Job Satisfaction Scores 84
  Treatment Autonomy Level and Job Satisfaction Scores 88
  Patient Referral Autonomy and Job Satisfaction Scores 88
  Selected Variables and Job Satisfaction Scores 94
E. Summary 103
IV. Testing The Hypotheses 113
A. Introduction 113
B. Summary of the Correlations 113
  Clinical Services Autonomy and Job Satisfaction Scores 113
  Treatment Autonomy and Job Satisfaction Scores 115

Patient Referral Autonomy and Job Satisfaction Scores 115

Clinical Services Autonomy, Formal Education Level and Job Satisfaction Scores 118

Treatment Autonomy, Formal Education Level and Job Satisfaction Scores 120

Patient Referral Autonomy, Formal Education Level and Job Satisfaction Scores 120

Clinical Services Autonomy, Amount of Postgraduate Clinical Education and Job Satisfaction Scores 123

Treatment Autonomy, Amount of Postgraduate Clinical Education and Job Satisfaction Scores 125

Patient Referral Autonomy, Amount of Postgraduate Clinical Education and Job Satisfaction Scores 127

Clinical Services Autonomy, Position in the Physiotherapy Job Hierarchy and Job Satisfaction Scores 130

Treatment Autonomy, Position in the Physiotherapy Job Hierarchy and Job Satisfaction Scores 130

Patient Referral Autonomy, Position in the Physiotherapy Job Hierarchy and Job Satisfaction Scores 133

Treatment Autonomy, Number of Direct Medical Contacts and Job Satisfaction Scores 135

Patient Referral Autonomy, Number of Direct Medical Contacts and Job Satisfaction Scores 137

Clinical Services Autonomy, Number of Direct Medical Contacts and Job Satisfaction Scores 139

Work Setting, Clinical Services Autonomy and Job Satisfaction Scores 141

Work Setting, Treatment Autonomy and Job Satisfaction Scores 141

Work Setting, Patient Referral Autonomy and Job Satisfaction Scores 144

Work Setting, Promotion Opportunities in Present Job and Job Satisfaction Scores 144

Work Setting, Intention to Make Physiotherapy a Sole Career and Job Satisfaction Scores 149

C. Summary 149

V. The Importance of Task Autonomy Variables as Predictors of Job Satisfaction 158

A. Introduction 158

B. Individual Model Variables as Predictors of Job Satisfaction 159

C. Model Variables as Predictors of Job Satisfaction Controlling for Clinical Services Autonomy 164

D. Model Variables as Predictors of Job Satisfaction Controlling for Treatment Autonomy 167

E. Model Variables as Predictors of Job Satisfaction Controlling for Patient Referral Autonomy 167

F. Career Opportunity Variables as Predictors of Job Satisfaction 172

G. Summary 174

VI. Conclusions 181

A. Introduction 181

B. General Implications 181

Task Autonomy Levels 181

Career-Related Variables 182

Job Satisfaction and Job Turnover Rates 183

C. Suggestions For Future Research 185

D. Summary 188

VII. Bibliography 192

VIII. Appendix 220

A. Questionnaire 220

List of Tables

Table | Page

3-1. Formal Education Level and Job Satisfaction Scores 79

3-2. Amount of Postgraduate Clinical Education and Job Satisfaction Scores 80

3-3. Position in the Physiotherapy Job Hierarchy and Job Satisfaction Scores 82

3-4. Number of Direct Medical Contacts and Job Satisfaction Scores 85

3-5. Clinical Services Autonomy and Job Satisfaction Scores 86

3-6. Clinical Services Rotations and Job Satisfaction Scores 89

3-7. Treatment Autonomy Level and Job Satisfaction Scores 90

3-8. Patient Referral Autonomy Level and Job Satisfaction Scores 92

3-9. Consultant Relationships and Job Satisfaction Scores 95

3-10. Direct Referrals in Non-Consultant Relationships and Job Satisfaction Scores 96

3-11. Work Setting and Job Satisfaction Scores 97

3-12. Research Course Requirements of First Physiotherapy Programme and Job Satisfaction Scores 100

3-13. Clinical Emphasis of First Physiotherapy Programme and Job Satisfaction Scores 101

3-14. Perceptions of Immediate Job Opportunities and Job Satisfaction Scores 104

3-15. Intention to Make Physiotherapy a Sole Career and Job Satisfaction Scores 106

3-16. Year of Graduation From a First Physiotherapy Programme and Job Satisfaction Scores 107

4-1. Crosstabulation of Clinical Services Autonomy Level and Job Satisfaction Scores 114

4-2. Crosstabulation of Treatment Autonomy Level and Job Satisfaction Scores 116

4-3. Crosstabulation of Patient Referral Autonomy Level and Job Satisfaction Scores 117

4-4. Crosstabulation of Formal Education Level and Job Satisfaction Scores Controlling For Clinical Services Autonomy 119

4-5. Crosstabulation of Formal Education Level and Job Satisfaction Scores Controlling For Treatment Autonomy 121

4-6. Crosstabulation of Formal Education Level and Job Satisfaction Scores Controlling For Patient Referral Autonomy 122

4-7. Crosstabulation of Amount of Postgraduate Clinical Education and Job Satisfaction Scores Controlling For Clinical Services Autonomy 124

4-8. Crosstabulation of Amount of Postgraduate Clinical Education and Job Satisfaction Scores Controlling For Treatment Autonomy 126

4-9. Crosstabulation of Amount of Postgraduate Clinical Education and Job Satisfaction Scores Controlling For Patient Referral Autonomy 128

4-10. Crosstabulation of Position in the Physiotherapy Job Hierarchy and Job Satisfaction Scores Controlling For Clinical Services Autonomy 131

4-11. Crosstabulation of Position in the Physiotherapy Job Hierarchy and Job Satisfaction Scores Controlling For Treatment Autonomy 132

4-12. Crosstabulation of Position in the Physiotherapy Job Hierarchy and Job Satisfaction Scores Controlling For Patient Referral Autonomy 134

4-13. Crosstabulation of Number of Direct Medical Contacts and Job Satisfaction Scores Controlling For Treatment Autonomy 136

4-14. Crosstabulation of Number of Direct Medical Contacts and Job Satisfaction Scores Controlling For Patient Referral Autonomy 138

4-15. Crosstabulation of Number of Direct Medical Contacts and Job Satisfaction Scores Controlling For Clinical Services Autonomy 140

4-16. Crosstabulation of Clinical Services Autonomy Level and Job Satisfaction Scores Controlling For Work Setting 142

4-17. Crosstabulation of Treatment Autonomy Level and Job Satisfaction Scores Controlling For Work Setting 143

4-18. Crosstabulation of Patient Referral Autonomy Level and Job Satisfaction Scores Controlling For Work Setting 145

4-19. Career-Related Variables and Job Satisfaction Scores 146

4-20. Promotion Opportunities in Present Job and Job Satisfaction Scores Controlling For Work Setting 148

4-21. Crosstabulation of Intention to Make Physiotherapy A Sole Career and Job Satisfaction Scores Controlling For Work Setting 150

5-1. Regression of All Variables in The Research Model Upon Work Satisfaction Scores 160

5-2. Stepwise Regression of All Variables in The Research Model Upon Work Satisfaction Scores 161

5-3. Regression of All Variables in The Research Model Upon Promotion Satisfaction Scores 162

5-4. Stepwise Regression of All Variables in The Research Model Upon Promotion Satisfaction Scores 163

5-5. Regression of Education, Job Classification, and Direct Physician Contact Variables Upon Job Satisfaction Scores With Clinical Services Autonomy As Predictor Variable 165

5-6. Regression of Education, Job Classification, and Direct Physician Contact Variables Upon Job Satisfaction Scores With Treatment Autonomy As Predictor Variable 168

5-7. Regression of Education, Job Classification, and Direct Physician Contact Variables Upon Job Satisfaction Scores With Patient Referral Autonomy As Predictor Variable 170

5-8. Regression of Career Opportunity Variables Upon Job Satisfaction Scores 173

5-9. Stepwise Regression of Career Opportunity Variables and Patient Referral Autonomy Upon Job Satisfaction Scores 175

List of Figures

Figure Page

2-1. The Research Model 51

5-1. Suggested Relationships Between Career-Related Factors and Job Satisfaction Levels 178

I. Introduction and Review of the Literature

A. Introduction

Although job turnover rates for hospital-based occupational groups such as physiotherapists tend to be high, factors associated with their job satisfaction levels have not been studied extensively (Bain, 1969; Hall, 1970). Physiotherapists are usually expected to work under the direction of referring physicians and departmental supervisors. In Canada, physiotherapists are required to train in university-based programmes which increasingly emphasize clinical research as well as practical therapy skills. In hospitals, which tend to be physician-dominated work settings, employers may not be in a position to provide clinical research opportunities for therapists in spite of possible changes in their job expectations resulting from their education (Reeder and Mausch, 1979).

Once a therapist has demonstrated an ability to provide competent physiotherapy care within established department guidelines, the individual usually works alone without direct supervision from physiotherapy supervisors. However, physicians and immediate supervisors can control which treatment techniques a therapist uses. Also, hospital departments may have clinical rotation policies under which therapists are assigned to different clinical services every few months with little attention paid to specialized skills an individual may have acquired (Hall, 1970; Mercer, 1980). The amount of control that a therapist has over these treatment-related activities will be referred to as task autonomy. With a current emphasis on clinical research, job satisfaction levels of qualified therapists may be negatively influenced by existing rigid job controls. More recent graduates may not be as satisfied with a job which involves only the treatment of patients under direct medical supervision.

In the literature review which follows, these issues will be explored in more detail. In addition, due to a relative lack of job satisfaction studies of paramedical personnel, factors likely to be associated with job satisfaction and task autonomy levels for various occupations will be discussed. This will lead to a consideration of possible relationships between task autonomy and job satisfaction levels for practicing physiotherapists.

Recent Changes in Canadian Physiotherapy Education

Canadian university physiotherapy programmes are changing the type of education required of their students. In earlier times, only diploma courses were available. Their primary purpose was to train therapists to fill job positions in hospital physiotherapy departments (Canadian Physiotherapy Association, 1950). Undergraduate degree programmes were then introduced. Their main purpose was to provide extra training for students with department management interests. In addition to clinical courses completed by diploma graduates, degree candidates were required to spend one extra year to complete courses in research methods and management. However, degree qualifications were not a requirement for the practice of physiotherapy (Nicholson, 1954; Fowler, 1961).

The proposal by the Canadian Physiotherapy Association that a baccalaureate degree in physiotherapy should be compulsory for practice was criticized by many clinical therapists. It was suggested that a therapist with a degree might be over-qualified for routine hospital work (Pady, 1974; Lubkowski, 1974). The proposal has been accepted however, and by September, 1982, a baccalaureate degree will be a requirement for membership in this association (Canadian Physiotherapy Association, 1974). Although once qualified most physiotherapists are employed to offer a practical service in hospital or private practice settings, students for these degree programmes are selected mainly on the basis of academic standing (Gartland, 1977; Cole, 1978).

The present trend in Canadian physiotherapy education tends to emphasize a need for systematic research in clinical physiotherapy. This emphasis is viewed as being necessary for several reasons. Development of a research base could increase the number of different career opportunities available to physiotherapists. Therapists who do not want to treat patients exclusively might then establish alternative careers in clinical research (Thompson, 1973; Semple, 1974). Career diversification may be necessary if numbers of jobs in hospital settings decrease with changing health care delivery practices (Marsden, 1979; Chartered Society of Physiotherapy, 1979).

To encourage the development of research, an increasing number of Canadian physiotherapy educators are upgrading their academic qualifications. Research methods courses are also now compulsory in a majority of physiotherapy programmes in Canadian universities (Currier, 1977; Walker and Gordon, 1977). It is suggested that by 1990 students should be able to pursue studies in physiotherapy at a doctoral level and by then a masters degree will probably be a basic requirement for clinical practice (Helewa, 1979).

Emphasis on Physiotherapy Research

Development of research in physiotherapy is viewed as having important consequences for the professional growth of this occupation. While the scope of clinical practice has expanded, the science of physiotherapy supporting clinical practices has remained underdeveloped. But if physiotherapy services are to receive support from other health care occupations, government funding agencies, and the public, continuing worth of physiotherapy treatments will have to be demonstrated (Peat, 1981). Furthermore, current leaders in physiotherapy believe that clinical therapists with appropriate research skills should assume more of the responsibility for scientific investigation of physiotherapy practices (Hislop, 1975; Chartered Society of Physiotherapy, 1976; Cleather, 1980). Development of a science of physiotherapy is also viewed as a necessity if this occupation is to replace a technical image with a more professional one (Basmajian, 1977). Although a need for research is emphasized, there is evidence of physiotherapists obtaining graduate degrees and not returning to physiotherapy. They seek careers in other fields which tend to offer greater numbers of career options (Frazer, 1978).

Why Study Job Satisfaction?

Job turnover rates for physiotherapists may indicate that a significant number of therapists are experiencing lowered levels of job satisfaction. These rates for paramedical personnel working in Canadian hospitals have been high (Mussalem, 1967; Bain, 1969). One study reports that 56% of the university educated paramedical employees in the sample did not feel that their current jobs fit their long range career plans (Bisconti and Solmon, 1977). In 1975, an average turnover rate for physiotherapists employed by Canadian general public hospitals was approximately 39.1% (Statistics Canada, 1975). These rates are slightly higher when compared to other groups of health care and social service employees. For instance, a summary report from various employers of health and social service personnel in Alberta indicates that for the period between April, 1980, and September, 1980, turnover rates for registered nurses, physiotherapists, and social workers, were 16.0%, 20.1%, and 14.8% respectively. These same figures are 8.5% for pharmacists and 7.6% for psychologists (Government of Alberta, 1980).

Various studies indicate that lowered job satisfaction levels may be a factor in increasing turnover rates for most employee groups (Price, 1977; Williams et al., 1979). Younger employees with higher educational qualifications are more likely to change jobs if other opportunities are available. They apparently tend to experience lowered job satisfaction levels because of inadequate opportunities to develop special abilities, meaningful career paths, or to experience task autonomy (Blau and Scott, 1962; Mumford, 1970; Maimom and Ronen, 1978; Martin, 1979). Job satisfaction levels are generally higher when an employee's abilities match any task requirements of their job (Abdel-Halim, 1979; Barrett et al., 1980). Job security, pay, hours of work, and fringe benefits appear to be of lesser importance in accounting for job satisfaction levels of most employees (Burstein et al., 1975).

Certain factors present in physiotherapy work settings may influence job satisfaction levels and turnover rates for physiotherapists. Career opportunities tend to be limited for paramedical personnel working in hospital settings. [1] A therapist can only advance as a department head. For those who prefer to continue treating patients, the job of direct patient care remains essentially unchanged over time. To reduce turnover, hospitals may have to place emphasis on long-term careers rather than jobs in particular health care facilities. University educated health care workers may not be as satisfied with restricted career opportunities even though their work satisfaction levels are high (Hurka, 1974; Calbeck et al., 1979; Redfern, 1980; White, 1980).

Students in health sciences programmes may be taught that they are "professionals" but many of them will begin their careers in physician-dominated hospital settings. Although physiotherapy schools teach students how to make technical decisions about when and how to apply different physiotherapy treatments on hospital wards, physicians have the option of sharing this decision-making with a qualified therapist or of controlling these decisions. A health care occupation may appear to be less attractive to a recent graduate once the realization that work activities can be controlled by department supervisors and physicians is experienced (Corwin et al., 1961; Kronus, 1976). Constant conflicts with both groups not only tend to contribute to lowered job satisfaction but also may result in a diminished sense of worth, frustration, and eventually, a desire to leave the occupation (Godfrey, 1978; Reeder and Mauksch, 1979; Wandelt et al., 1981). Although certain studies indicate that an adequate level of task autonomy appears to be a major factor influencing job satisfaction levels of health care personnel, health care workers providing direct patient care in hospital settings are more likely to be only moderately satisfied with task autonomy levels present in their job situations (Slavitt et al., 1978; Stamps et al., 1978).

---

[1] A majority of physiotherapists working in Canada are employed in hospital settings. In 1976, the percentages of therapists working in general public hospitals and private practices were approximately 61% and 16% respectively (Compendium of Selected Health Manpower Statistics, Statistics Canada, 1976).

Job expectations of more recent physiotherapy graduates may be changing. Lowered job satisfaction levels might result if physiotherapy schools are stressing a need for a development of higher degrees of professionalization through the growth of clinical research activities but career opportunities in physiotherapy research do not exist in hospital work settings. While hospitals employ physiotherapists to treat patients under the direction of referring physicians, an increasing number of therapists may expect to eventually develop research or management skills in addition to providing patient care services.

A higher level of clinical physiotherapy research activity may not be possible in hospital settings where the amount of control that a practitioner has over applications of physiotherapy treatments can be restricted by immediate supervisors or physicians. Scientific investigators require sufficient task autonomy levels to control planning and design stages of research projects (Kornhauser, 1963). A career in research usually develops in an environment where scientific information is exchanged. Attendance at conferences and publication of research results are necessary activities. Many of these employees often expect to have a career in both research and management as job-related interests change (Glaser, 1964; Goldberg, 1976; McKelvey and Sekaran, 1977).

Although hospital employers provide a scientific environment and technical facilities for medical research activity by physicians, other health care occupations have experienced a certain amount of resistance in their attempts to establish autonomous clinical, research, and management roles in addition to more traditional technical roles (Hall, 1967; Katz, 1969). It is currently argued that if health care costs are to be controlled in the future, nurses and paramedical therapists should be supported in their efforts to develop these newer autonomous roles. Unnecessary hospital utilization might be reduced if health care personnel with additional training are responsible for the design and implementation of programmes which provide routine medical care in community settings (Katz et al., 1976).

Job expectations of graduates of university-based physiotherapy programmes may be changing while hospital work settings tend to continue to offer restricted career opportunities. In spite of high job turnover rates for these employees, very few studies have considered specific factors related to job satisfaction levels of differing health care occupations. Nurses have been the subject of a majority of these types of studies. Other groups such as physiotherapists, occupational therapists, speech therapists, and dieticians have received little attention. Results of only one job satisfaction study of physiotherapists were found reported in a major physiotherapy journal (cf., Barnes and Crutchfield, 1977). However, this study may be of limited use because job satisfaction levels for a sample of physiotherapy private practice owners and hospital physiotherapy department supervisors were compared. Relatively high job satisfaction levels reported in this study may reflect the supervisory positions that these therapists hold. In addition, these results might also reflect a more clinical-technical emphasis of the educational background that these therapists received. Their ages ranged from 35 to 45 years. Therapists working in junior positions with more recent educational backgrounds which tend to emphasize professionalization, autonomous clinical roles, and research development may not be as satisfied with their physiotherapy jobs.

B. Literature Review

Evidence of Lowered Job Satisfaction Levels Among Physiotherapists

Various physiotherapy journals have consistently discussed several factors which might contribute to lowered job satisfaction levels for practicing physiotherapists. A relative lack of different career opportunities available to a clinical therapist is often criticized. Qualified therapists complain that many undergraduate physiotherapy programmes with their relatively narrow technical emphasis do not adequately prepare students for graduate programmes in health management even though graduate qualifications are usually required for hospital management positions (Bennett, 1977; McPhee, 1977; Brook et al., 1978; Tebay, 1978). Physiotherapists working in private practices have consistently expressed discontent with the fact that they have to compete unfairly with chiropractors for patients. Potential patients can choose first a visit to a chiropractor because these individuals cannot be treated by a therapist without a medical doctor's referral (Stirling, 1965; Galley, 1975; Probert, 1976). Another complaint which has been frequently discussed over time is that a physiotherapist's treatment role can change with each referring physician and work setting. In some instances, physical treatment based on a therapist's musculo-skeletal evaluation with very little supervision by physicians is expected. In other circumstances, following a physician's prescription of which treatment to apply is standard practice. There appears to be little agreement on what a therapist's treatment role has been or should be in the future. While there are practitioners who prefer a more traditional restricted role, there are also those who argue in favor of physiotherapists taking more responsibility for physiotherapy treatments by working with little or no direction from physicians (Heylings, 1954; Wiles, 1954; Pollard, 1962; Goetz, 1978; Kibbey, 1978).

Basic Factors Associated With Lowered Job Satisfaction Levels

Physiotherapists who have stronger career interests are more likely to be dissatisfied with a lack of managerial or research opportunities offered in most clinical work settings (Ward et al., 1977; McPhee, 1977). Expansion of physiotherapy career structures has been hindered by several factors. It was reported in the previous subsection that basic physiotherapy education with its relatively narrow technical emphasis has been criticized as not preparing therapists adequately for admission to graduate health science programmes although graduate qualifications are required for most positions in hospital administration and clinical research.[2] A therapist with only a baccalaureate degree in physiotherapy is at a disadvantage. Additional training is required if these alternative career directions are considered. Some physiotherapy educators suggest that the minimum education requirement for physiotherapists should be a graduate degree (Worthingham, 1970; Lansbury, 1971; Johnson, 1974; Daniels, 1974). One study reports that a majority of therapists in a sample of recent Canadian physiotherapy graduates express an interest in obtaining graduate level qualifications in addition to their baccalaureate degrees. The authors suggest that this interest may be due to a desire by more recently trained therapists for a greater number of career opportunities (Woodbury and Peat, 1980).

---

[2] In 1976, approximately 27% of the physiotherapists employed by Canadian general public hospitals held undergraduate degrees in physiotherapy (Compendium of Selected Health Manpower Statistics, Statistics Canada, 1976).

In most work settings, additional career options are not available for therapists who attend postgraduate clinical courses to become clinical specialists in physiotherapy. Attainment of more clinical skills or higher educational qualifications does not necessarily lead to a promotion or an increase in salary. Also, most physiotherapy associations do not formally recognize the physiotherapy specialist as do medical associations by specifying specific categories of specialized practitioners. While there are special interest groups within physiotherapy associations, their members receive little in the way of formal recognition from either employers or occupational associations (Hislop, 1958; Edwards, 1978; Moore, 1978; Van de Meene, 1978).

Growth of job opportunities in clinical research is not only hindered by the type of basic education that physiotherapists usually receive. Practicing therapists with formal research experience are not usually given sufficient time to develop or participate in research projects since patient caseloads are often the first priority. Funding from an employer, therefore, may be difficult to obtain (Hislop, 1958; Ballin et al., 1980). Results from one survey indicate that physiotherapy educators in Canadian universities are usually not encouraged to engage in research. Teaching is considered to be a more important activity. Under these circumstances, research funding may be difficult to obtain (Onuoha, 1980).

Growth of physiotherapy career directions is likely to be slow. Physiotherapy programmes usually attract students who are more conventional in their ideas and behaviour. When compared to other groups of university students, they are more likely to express less interest in bringing about change or exerting leadership. Acquisition of concrete skills and techniques is often considered to be more important than working with ideas (Goodwin, 1972; Wellock, 1975; Irving and Foreman, 1979). In addition, although physiotherapy students are optimistic about being able to pursue a variety of career options in clinical physiotherapy, a significant number also expect to be married and working part-time while caring for children (Ussher and Holley, 1963; Worthingham, 1969; Conine, 1972; Thomas et al., 1980). [3] However, hospital physiotherapy departments are often reluctant to employ physiotherapists with younger children on a part-time basis because these therapists are more likely to be viewed as having weaker professional commitments (Nordholm and Westbrook, 1979). Physiotherapy supervisors may have the attitude that with their dual career patterns as mothers and therapists, these individuals are more likely to put family interests ahead of patient care responsibilities.

Physiotherapists' major complaints about the medical referral system were introduced in the previous subsection. Certain medical authorities recognize that physiotherapists with postgraduate training in spinal manipulation techniques can offer the same services as chiropractors and therefore, should receive support for this type of service from the medical profession within the present medical referral system (Cyriax, 1970; Cyriax, 1971). However, physiotherapists argue that patients who require the services of a chiropractor often do not have time to make an appointment with a medical doctor and then be referred to a physiotherapist. These individuals are more likely to require immediate treatment (Galley, 1976; Galley, 1977). The recommendation that direct access to physiotherapy services should be available to patients with a therapist accepting the responsibility of referring patients to their physicians when appropriate, has not been accepted by the medical profession. Medical associations in Canada do not approve of direct access to physiotherapists. Physiotherapists with more control over patient referrals are viewed as a threat to the traditional authority and income levels of physicians (Canadian Physiotherapy Association, 1978; Blair, 1979; Leslie, 1979).

There are physiotherapy associations which have begun to actively address medical referral issues. The Australian Physiotherapy Association and the Chartered Society of Physiotherapy (Great Britain) have recently rescinded the ethical principle which states that physiotherapists must treat patients only upon referral from a medical or dental practitioner (Chartered Society of Physiotherapy, 1978; Australian Physiotherapy Association, 1978). Although the Canadian Physiotherapy Association recently rescinded the medical referral requirement for its members, provincial governments control licencing procedures for physiotherapists. In Alberta, for example, a physiotherapist is allowed to treat only those individuals who have a medical or dental referral (Government of Alberta, 1955; Canadian Physiotherapy Association, 1981). It is argued that this regulation may be outdated now that greater numbers of physiotherapists are highly specialized and acquire postgraduate clinical skills on a continuous basis. Physiotherapy specialists are more likely to be critical of a physician's prescription when information about a patient's musculo-skeletal condition is inaccurate or inadequate (Canadian Physiotherapy Association, 1979; Helewa, 1979).

---

[3] In 1976, approximately 90% of the physiotherapists employed by Canadian general hospitals were female (Compendium of Selected Health Manpower Statistics, Statistics Canada, 1976).

Another factor introduced in the previous subsection as possibly contributing to lower job satisfaction levels was inconsistencies in a physiotherapist's treatment role. The general job description guidelines published by the Canadian Physiotherapy Association indicate that this role is likely to change with employers. It is suggested that non-supervisory therapists should assume the following responsibilities: assess and treat assigned patients who have been referred by a medical or dental practitioner; discuss any treatment progress of these patients with an immediate physiotherapy supervisor; maintain adequate treatment and progress records; maintain liason with other health disciplines (Canadian Physiotherapy Association, 1974). This association emphasizes that these are general guidelines. Specific job descriptions for junior and more senior positions are likely to vary with employers. In addition, amounts of control a therapist has over treatment activities may also vary with each patient treated since control levels often depend on the attitudes of referring physicians towards amounts of control they think therapists should have.

Physicians may require that a therapist follow specific instructions and they decide the actual physiotherapy treatments to be used during patients' treatment programmes. Or in other cases, a physiotherapist may be permitted to decide which physiotherapy treatments are to be used but physicians decide when patients begin and end treatments. Medical referral forms may also request that therapists make all these decisions about patient care. Amounts of control that physicians have in the physiotherapy treatment process may have considerable influence on task autonomy levels for physiotherapists (Worthingham, 1970; Walmsley and Snewing, 1970; Canadian Physiotherapy Association, 1979).

Many physicians' lack of knowledge about physiotherapy treatments may create problems for therapists. In one survey, an investigator reports that 73% of the physicians in her sample indicate that they do not feel that their knowledge about physiotherapy services is adequate (Dunkel, 1974). This factor is possibly contributing to limited patient referral or non-referral on the part of some physicians (Esposito, 1978). In addition, physiotherapists may be asked to treat patients who will not benefit from physiotherapy treatments or who might have been helped to recovery in a shorter period of time had they been referred to a physiotherapist during earlier stages of their medical problems (Galley, 1975; Clifton, 1979).

Occupational Status of Physiotherapy

A dilemma which most health care organizations have to cope with is that of providing highly trained specialists with adequate levels of task autonomy and simultaneously allowing members of the medical professsion the authority to co-ordinate patient care activities of these specialists. Often these different occupational groups are working towards obtaining increasing amounts of control over their job-related tasks. However, this is usually at the expense of control presently held by physicians. It may be in the best interests of physicians to resist such attempts to change existing power structures (Wilensky, 1964; Mechanic, 1976). In a technically complex medical system, the medical profession has found it necessary to delegate certain routine tasks to a number of occupational groups. Consequently, a greater amount of information is exchanged between physicians and various technical experts they are now dependent on to provide patient care. However, conflicts are likely to arise when these employees are more knowledgeable in a particular area of medicine than physicians but their job-related activities may be controlled by an administrative representative or medical doctors (Bucher and Strauss, 1961; Etzioni, 1964; Etzioni, 1969). In a hospital work setting, amounts of job-related autonomy that can be obtained by any of these occupational groups is likely to be limited by the fact that physicians retain sole control over the major task of diagnosis. It is physicians who decide which patients are admitted to hospitals (Dingwall, 1974).

Physiotherapy is one of the occupations established to assist physicians in the delivery of patient care services. This group is usually referred to as paramedical occupations. The different paramedical occupations include physiotherapists and other therapists who provide certain services which are an extension of the treatments provided by physicians, technicians who operate laboratories and other diagnostic facilities, and those who provide specialized clerical services such as processing medical and hospital records. Therapists tend now to differ from the other two groups in that they are usually trained at a university and therefore view themselves as being more "professional" (Hall, 1970).

Amounts of control that therapists have over job-related tasks can be negotiated between individual physicians and a therapist. Control levels appear to depend on the willingness of a physician to give some degree of autonomy and the attitude of a physiotherapist towards taking more job-related control. Therapists can accept or refuse a physician's offer. Demanding more control is also an alternative (Mercer, 1978). Amounts of task control to be negotiated also may be influenced by the type of clinical service. For example, in a sports medicine clinic where athletes often require emergency physiotherapy treatment, a physician is more likely to permit therapists to treat patients without immediate medical referrals on an understanding that he will be contacted within an appropriate time period (Mercer, 1980).

Although physiotherapists are likely to view themselves as being "professionals", their status tends to be lower than other health care groups with a similar university background. For example, pharmacists, like physiotherapists, are subordinate to physicians. However, their optional entrepreneurial role and frequent contacts with the general public are factors which earn pharmacists a higher status and put them in a stronger position when dealing with physicians (Wardwell, 1979). Speech therapists also appear to have a higher status than nurses, physiotherapists, or occupational therapists. Many speech therapists working in clinical settings have earned graduate degrees and therefore probably command a greater amount of recognition from physicians. In addition, these therapists can work in a variety of community settings including schools.

Physicians usually have less control over health care workers in such settings (Wardwell, 1979).

An individual therapist working in a hospital department or a private practice may be able to determine amounts of control over job-related activities in a negotiation process with certain physicians. However, physiotherapists are also considered to be members of a hospital-based paramedical occupation. As such, they are viewed by others as working under the direction of hospital administrators and referring physicians.

Job Satisfaction Relationships Found In Various Occupations

The first section of this chapter has presented several factors which may be associated with the job satisfaction levels of clinical physiotherapists in non-supervisory positions. The focus of this discussion will now change to consider influences of certain variables on job satisfaction levels of various occupations. This section is divided into two parts. The first part will discuss relationships between certain variables and job satisfaction levels. The second part examines reported relationships between several factors associated with task autonomy and job satisfaction levels.

Relationships between several variables and job satisfaction levels have been examined for various occupational groups. However, results of such studies often conflict. Theoretical approaches used to study job satisfaction vary. Correlations between job satisfaction measures and contextual variables or individual characteristics are usually examined but some studies attempt to explain these correlations in terms of various psychological theories. In addition, there are few commonly defined constructs found when comparing different job satisfaction theories (Schwab and Cummings, 1970; Carroll, 1973). Conflicting results may also be due to differences in the operational definitions of a variety of job satisfaction measures (Kalleberg, 1974). In view of these difficulties, a summary of reported relationships between several well researched variables and job satisfaction levels follows.

The gender of a respondent does not appear to be a major predictor of job satisfaction (Keaveny et al., 1978). Although there is evidence to suggest that females are more likely to be satisfied with lower income levels when compared to male employees, as womens' salary expectations change with their increased participation in the labour force this gender-pay satisfaction relationship may be eliminated (Sauser and York, 1978). Women might be more satisfied with lower income levels because societal expectations have been that female employees will earn less (Smith et al., 1969).

Education level does not appear to be an important predictor of job satisfaction levels (Weaver, 1974). Younger college educated blue collar employees may be satisfied with manual tasks because the alternative is often a clerical job which usually pays less than factory work (Wright and Hamilton, 1979). Salary is likely to be one of the more important job factors for employees below the age of 24 years (Burstein et al., 1975). Clerical and managerial employees with higher education levels do not experience significantly lower overall job satisfaction levels but appear to be less satisfied with organizational management policies (Gordon and Arvey, 1975). However, there is also evidence to suggest that younger employees and employees with higher educational levels are less satisfied with highly structured jobs (Baker and Hansen, 1975).

Job satisfaction levels are likely to be higher among employees in the professional, farm, and skilled blue collar occupational categories when compared to unskilled employees (Weaver, 1974). A commonly held view is that jobs held by employees in the latter category may be less satisfying because these workers receive less financial and intrinsic job rewards (Kalleberg and Griffin, 1978). However, if the effects of occupational prestige are statistically removed, labourers appear to experience higher job satisfaction levels while professional and technical employees have the lowest levels. Occupational prestige may contribute more to overall job satisfaction levels than does task autonomy, individual authority, or income (Weaver, 1977).

Studies of the occupational status-job satisfaction relationship for specific occupations appear to provide inconclusive results. Job satisfaction levels of a sample of professional librarians with graduate degrees did not differ significantly from the same levels for clerical and unskilled service staff employed by the same organization (Prybil, 1973). Public school teachers who would like to have a higher occupational status are more likely to experience lower job satisfaction levels (Rettig and Pasamanik, 1959). Overall job satisfaction levels for a sample of hospital employed nurses of different occupational levels did not vary significantly when job level only is compared. However, nurses with higher job levels experience a significant increase in pay satisfaction levels.

The relationship between job level and overall job satisfaction level becomes positive and significant only when other factors are considered. For nurses who prefer to have a job with higher levels of task autonomy, task complexity, responsibility, pay, and authority, overall job satisfaction levels increase with occupational level. This sample includes a comparison of nursing supervisors, head nurses, staff nurses, and nursing aides (MacEachron, 1977).

Job satisfaction levels are likely to increase with income satisfaction levels (Weaver, 1974). However, for most occupational groups, pay becomes a predictor of job satisfaction only when an employee perceives that a job lacks intrinsic interest. Pay increases then compensate for other disadvantages of a work situation (Johnston, 1975).

Income dissatisfaction is more likely to occur if employees perceive that a salary system is not rewarding what they consider to be the actual job demands (Dyer et al., 1978). Job satisfaction levels appear to be higher for employees who perceive that job rewards in addition to pay reflect job-related performance and accomplishments (Keller and Szilagyi, 1978).

Studies of the job performance and job satisfaction relationship present conflicting results. Job performance may influence overall job satisfaction levels but there is evidence to support the reverse relationship. These inconsistent results might be due in part to the inadequacy of measuring job performance by task output only. Numerous studies do not define job performance in terms of possible multiple behaviours and attitudes which may be associated with the act of performing a job-related task (Schwab and Cummings, 1970; Fisher, 1980).

There is evidence to suggest that the performance-job satisfaction relationship may be moderated by perceived job-related rewards. Job satisfaction levels are likely to be higher when employees with high job performance ratings obtain intrinsic and extrinsic rewards expected for this increased output (Lawler and Porter, 1967; Slocum, 1970). To illustrate the complex nature of this relationship, findings from three different studies are summarized. One investigator reports that for a sample of industrial machine repair technicians, job performance ratings were positively related to satisfaction with the intrinsic aspects of their job. However, satisfaction with extrinsic job factors was positively related to job performance ratings (Ivancevich, 1978). In another study, job satisfaction levels did not significantly influence job performance ratings for a sample of library personnel (Prybil, 1973). Other investigators report that satisfaction with the work and supervision were positively related to job performance ratings while satisfaction with income and promotions were not related to performance for a sample of registered nurses (Nealey and Owen, 1970).

Increases in job satisfaction with employees' ages is a common finding in the literature (Smith et al., 1977). Employees in the 25 to 34 age group are least likely to be satisfied with the intrinsic aspects of their jobs (Burstein et. al, 1975). However, one investigator was unable to find a relationship between these two variables when analyzing data from a large sample of American workers covering a six year period where all occupational categories are included. He concludes that differences in these findings may be due to comparisons between many occupational groups since investigators usually study a sample from specific organizations and make comparisons between a few occupational categories (Weaver, 1974).

For some occupational groups, job satisfaction levels do not increase with length of tenure in an organization. Although several studies report a positive linear relationship between these two variables, there is also evidence to suggest that for middle level managers, a decrease in job satisfaction levels occurs over time (Smith et al., 1977). The relationship between tenure and satisfaction with specific job facets may vary for different employee groups employed by the same organization. For employees with administrative positions, overall job satisfaction levels and satisfaction with the work and organizational policies are likely to increase with length of tenure. Employees with more professional skills are likely to experience higher overall job satisfaction levels and greater satisfaction with their work as length of tenure increases. However, for this group, satisfaction with organizational policies decreases over time. For clerical employees, overall job satisfaction levels and satisfaction with the work increase with length of tenure while satisfaction with organizational policies decreases over time. Maintenance workers are likely to experience higher job satisfaction levels and greater satisfaction with the work and organizational policies as length of tenure increases (Van Maanen and Katz, 1976).

For industrial non-supervisory employees, job satisfaction levels are likely to increase with the number of tasks involved in the performance of a job (Shepard, 1970). The diversity of job-related tasks may also influence job satisfaction levels of employees performing highly specialized tasks. Research scientists who not only engage in research activities but also have part-time consulting or management commitments are likely to experience higher job satisfaction levels (Andrews and Pelz, 1976). Job satisfaction scores are also likely to be higher for researchers with a greater number of job-related interests (Dewhirst and Arvey, 1976; Arvey and Dewhirst, 1979).

A higher level of task diversity that creates a task overload for employees is likely to decrease job satisfaction levels. For example, medical secretaries who are expected to work for a hospital's medical records department and at the same time attend to the paper work for assigned physicians are more likely to experience lower job satisfaction and higher job turnover rates (Evers, 1977). Registered nurses who are expected to provide patient care in addition to completing patients' charts, ordering supplies, and supervising clerical staff may also experience lower job satisfaction levels (Lyon and Ivancevich, 1974; Munson and Heda, 1976). However if patient care tasks are not varied, lower job satisfaction scores might occur. Nurses who have frequent changes in either specific tasks performed or actual patients assigned to their care are more likely to be satisfied with their jobs (Strilaeff, 1978).

Congruency between perceived and desired job attributes does not appear to influence job satisfaction levels. Perceived attributes are likely to have greater affects on job satisfaction levels. What is valued about a particular job is less likely to be as important (Kalleberg, 1977). Lowered job satisfaction levels may even result when the received attribute level exceeds an employee's preferred number of job attributes (Tannebaum and Kuleck, 1978). For example, registered nurses are able to define a greater number of desired job attributes when compared to other hospital employee groups such as administrators, office workers, paramedical workers, nursing auxillaries, and unskilled employees. However, nurses are also likely to have the lowest job satisfaction scores because their jobs do not actually provide certain specified extrinsic and intrinsic attributes (Palola and Larson, 1965). The perceived attributes which are more likely to be stronger predictors of job satisfaction levels for many occupational categories include skill utilization, task autonomy, variation in work content, frequency of interaction with different employees, and the perceived degree of importance of a job (James and Jones, 1980). Of these variables, skill utilization is possibly the strongest predictor of job satisfaction levels (Ritti, 1970; O'Brien and Dowling, 1980).

Of the nine variables compared in this subsection, two of the stronger predictors of job satisfaction scores for most occupational groups appear to be skill utilization and task diversity. Much of the evidence supporting the other variable-job satisfaction relationships summarized in this chapter tends to be contradictory. However, these general patterns found for the two stronger predictors and the variables, gender, education level, age, occupational level, pay, performance, and tenure, form a basis for a broad comparison of job satisfaction levels for physiotherapists and other occupational groups in view of the fact that few job satisfaction studies of physiotherapists and other paramedical groups have been done. Therefore, although the main purpose of this investigation is to establish whether task autonomy is an important predictor of physiotherapists' job satisfaction scores, certain other variables discussed in Chapter I are also considered in subsequent chapters.

Task Autonomy and Job Satisfaction Relationships

The influence of task autonomy on job satisfaction levels appears to be moderated by an interaction of various factors. Three of the more important factors include type of occupation, preferred leadership styles, and preferred levels of control over tasks (Shepard, 1973; Weaver, 1977).

For employees with highly regimented jobs, task autonomy levels are often regulated by the norms of informal work groups. Although tasks involved are usually regulated by the pace of machines with workers having less control over the actual performance of a job, informal social relationships which develop between co-workers may influence amounts of control over other activities associated with operating a machine. Informal group norms often influence control levels over job-related activities such as job performance levels, the length of coffee breaks, and on the job speech patterns (Zaleznik et al., 1965; Katz, 1965; Katz, 1968). Performance levels and job satisfaction scores have been found to be higher among factory workers with limited participation in decision-making when the same levels are compared for managerial personnel employed by the same company (Ruh et al., 1975).

Unlike an employee who is less skilled, a more professional employee often has the option of establishing an individual role in an organization. This type of work is usually highly specialized and the tasks less defined. Obtaining control over working conditions is more a process of negotiation and bargaining with relevant members of an organization (Bucher and Stelling, 1977). Specialized skills offered by these employees are required by management while highly skilled specialists depend on organizations for technical resources (Blau, 1979; Danziger, 1979).

Although task autonomy levels might differ with occupational level and the type of job performed, certain patterns appear in the literature that indicate which groups of workers prefer a higher level of job-related control. For employees with highly regimented jobs, job satisfaction levels are likely to be lower among younger workers who prefer to make a greater number of job-related decisions (Alutto and Acito, 1974). Decisions about where one works in a factory and at what kind of job tend to be stronger predictors of job satisfaction when compared to decisions about how to actually perform job-related tasks (Taveggia and Hedley, 1976).

Career dissatisfaction is likely to be greater and job satisfaction levels lower among younger semi-professional employees who prefer a higher level of participation in job-related decisions (Carpenter, 1971; Alutto and Belasco, 1972; Alutto and Vredenburg, 1977). Although junior employees may want to participate more in the decision-making process, a distinction should be made between task autonomy and participative autonomy in an organization. Limited participative autonomy may contribute more to the discrepancy between actual and preferred decision-making levels. A highly skilled employee generally has a considerable amount of task autonomy due to the specialized nature of this type of work. However, higher levels of participation in organizational-related decisions is more likely to occur only as an employee becomes more senior. These lower job satisfaction levels for younger more professional employees may be influenced more by participative autonomy levels (Miller, 1967; Marcson, 1979).

Leadership styles appear to be associated with job satisfaction levels. Employees are more likely to experience lower job satisfaction levels if their immediate supervisors tell them how to do their jobs. Generally, some participation in making job-related decisions is preferred (Schuler, 1976; Ivancevich et al., 1980; Matteson and McMahon, 1980). Job satisfaction levels are usually higher if an immediate supervisor indicates respect for employees' ideas and considers their feelings (Downey et al., 1975; Mitchell et al., 1975). Lowered job satisfaction may result if employees comply with a supervisor's directives because he expects compliance due to his position in an organization. Employees usually prefer to follow orders because a supervisor is well liked and his experience and good judgement is respected (Bachman et al., 1968; Ivancevich, 1970).

Employees with highly specialized skills are more likely to prefer a system of indirect control. However, due to the complexity and uncertain outcomes of this type of work, guidance from supervisors is also necessary (Marcson, 1972). More complex jobs often require a longer time for task outputs to materialize. A certain amount of interaction between a supervisor and employees often minimizes feelings of frustration during periods of task-related uncertainty (Alderfer, 1967). For highly skilled employees, job satisfaction levels are likely to be higher if a supervisor provides leadership which emphasizes clear specification of work methodology and employee role relationships (House et al., 1971; Dessler and Valenzi, 1977). In addition, satisfaction with a job may be increased and task uncertainty reduced if employees perceive that there is agreement among managers on a style of leadership to be used in the supervision of employees (Greene and Organ, 1973; McMahon and Ivancevich, 1976). Job uncertainty may be further minimized if a supervisor exhibits a distinctive style of leadership enabling employees to know what is expected of them. Whether a leadership style tends to be more participatory or directive does not appear to be an important factor. Job satisfaction levels are likely to be lower for highly skilled employees who do not consider their supervisors to have a distinctive style of leadership (Sadler, 1970).

Job satisfaction levels are likely to be influenced by an employee's task autonomy expectations. When an employee prefers to experience a higher level of task autonomy but cannot obtain this desired amount of control, lowered job satisfaction is more likely to result. Once a desired level has been obtained, task autonomy ceases to be a major factor influencing job satisfaction levels (White, 1972). A highly structured non-autonomous work environment is not dissatisfying to certain groups of employees. There are those with strong interests outside of their jobs (Stinson and Johnson, 1977).

Employees with highly specialized skills usually prefer to maintain a degree of control over the types of tasks performed and any methods used to complete them (Mumford, 1972; Love, 1977). For example, research and design personnel usually expect to have some control over choices of research projects (Souder, 1974; Miller, 1977). In addition, these employees are likely to have commitments to particular occupational groups which extend beyond an employing organization. An employee might expect to be able to attend conferences sponsored by an occupation. Such activities may influence choices of job-related projects completed for an employer (Gouldner, 1957; Andrews and Pelz, 1976). Job satisfaction levels are likely to be higher for highly skilled employees who work in moderately controlled settings where employees have some control over projects choosen and amounts of commitment to occupational groups outside a work setting (Pelz and Andrews, 1966; Andrews and Pelz, 1976).

C. Summary

While job turnover rates are relatively high for physiotherapists and other paramedical personnel, little attention is given in the literature to an identification of factors which are likely to contribute to lower job satisfaction levels for these therapists. The discussion presented in Chapter I also indicates that job satisfaction levels are likely to be lower and turnover rates higher for younger employees who are unable to obtain sufficient task autonomy levels, develop their special skills, or pursue alternate career directions in their current jobs. Restricted task autonomy and few career alternatives have been identified as two factors that may operate to lower job satisfaction levels for clinical physiotherapists. This study focuses on relationships between task autonomy and job satisfaction.

The literature review indicated that for most employees, two of the stronger predictors of job satisfaction levels include skill utilization and variation in work content. Job controls present in most physiotherapy work settings were discussed as factors that may be operating to inhibit any development of specialized clinical skills. It was suggested that job satisfaction levels are likely to be lower for therapists with specialized clinical or research skills if these additional skills cannot be used in current work settings. Levels of variation in work content might be insufficient for a therapist with specific clinical interests but is unable to pursue such interests due to an inappropriate patient caseload. In both instances, amounts of control that therapists have over treatment activities may be limited by a referring physician's treatment preferences or a department's clinical services rotation policy where therapists are assigned to different services every few months. Specialized skills are less likely to be practiced during patients' treatments if referring physicians do not allow the use of new techniques. Developing clinical skills may also be hindered if patients on an assigned service could be harmed by applications of certain treatments.

In this chapter, variations in task autonomy patterns for unskilled and highly skilled occupational groups were also discussed. Job satisfaction levels may be higher for employees with low task autonomy levels. Some employees prefer a restricted job-related control situation. However, highly skilled employees usually prefer moderate amounts of control. Job satisfaction levels are likely to be higher among these employees when they are able to choose the methods by which tasks are to be completed but receive sufficient guidance so that these tasks can be completed without unnecessary difficulty. Due to the specialized nature of their work, highly skilled employees are likely to have a considerable amount of task autonomy. Unlike an unskilled employee, a highly skilled individual is not usually employed to fill a vacancy with a specific job description. Such an employee is more likely to be in a position where a level of task autonomy is established through negotiation with an employer.

Task autonomy levels of physiotherapy practitioners may vary considerably. Physiotherapists, like other health care workers with specialized skills, work under the direction of referring physicians and departmental supervisors. However, individual therapists may be in a position where they can negotiate with referring physicians to obtain greater amounts of job-related control. Whether there is an increase in task autonomy levels often depends on the attitudes of individual physicians towards how much control they think therapists should have. For therapists who prefer to treat patients using a variety of treatment approaches, job satisfaction levels may be lower if referring physicians expect routine procedures to be used during the treatments of all their patients.

Changing trends in Canadian physiotherapy education were also discussed. It was suggested that these changes are likely to influence physiotherapists' job expectations. Job satisfaction levels may be much lower for therapists who have a research background but are unable to obtain sufficient time away from patients' treatment sessions to participate in clinical projects. Opportunities to develop individual clinical research interests are unavailable in most physiotherapy departments. Job satisfaction levels may also be lower for therapists who prefer to experience a higher level of participation in organizational decision-making. As discussed in this chapter, hospitals usually employ physiotherapists to treat patients referred for physiotherapy treatments. Alternative career opportunities in hospital management are usually not available for therapists with stronger career aspirations.

Job satisfaction patterns and task autonomy level preferences for non-supervisory physiotherapists have not been extensively studied. Consequently, relationships between selected variables and job satisfaction levels for various occupational groups were discussed in Chapter I. Also, findings from several studies of relationships between task autonomy levels and job satisfaction levels were presented. The major purpose of this investigation is to establish whether task autonomy may be an important predictor of job satisfaction levels for non-supervisory physiotherapists by comparing empirical findings from these different studies with data collected from a sample of practicing physiotherapists.

Hypotheses that test this task autonomy-job satisfaction relationship are developed and discussed in Chapter II. These hypotheses consider several occupational factors suggested in Chapter I as having possible affects on the task autonomy expectations of physiotherapists. Such factors include formal education level, amount of postgraduate clinical education, position in the physiotherapy job hierarchy, and amounts of direct physician-therapist contact. Job satisfaction levels may be lower for therapists who have completed degree programmes or greater numbers of postgraduate clinical courses but are unable to develop their clinical interests due to treatment restrictions or inappropriate patient caseloads. Therapists in more junior positions might experience lower job satisfaction if asked to rotate to clinical services that do not offer opportunities to develop specific clinical interests. Job satisfaction levels may also be lower for therapists with very few direct physician contacts. It is through this contact that a higher level of job-related control might possibly be obtained. Interrelationships between these factors are discussed in greater detail in the next chapter.

It has been emphasized throughout Chapter I that a greater number of statistically significant relationships are more likely to be found when job satisfaction scores are correlated with variables related to the type of work done by employees or variability in meaningful career directions. Stronger predictors of job satisfaction levels for most employee groups were reported as including skill utilization, task diversity, opportunities for career options, and whether task autonomy levels interfere with job performance. Findings summarized in this chapter indicate that variables defining other job-related attributes such as salary, supervision or co-worker relationships tend to be more weakly correlated with job satisfaction scores. It was noted that salary usually becomes an important predictor of job satisfaction levels only when pay is a compensation for what employees perceive to be other disadvantages of their jobs such as repetitive job-related tasks or too few career directions. Also, physiotherapists are not as likely to be influenced by informal group norms or experience direct control over work activities by immediate supervisors when as noted in this chapter, each physiotherapist usually works alone treating patients without required assistance from other therapists. Therefore, factors associated with clinical physiotherapy as work and a career will be emphasized in subsequent chapters. In addition, job satisfaction levels will be measured by work satisfaction and promotion satisfaction scores. Details of the job satisfaction scale used in this study are discussed in Chapters II and III.

Bibliography

Abdel-Halim, A.A.

1979 "Individual and Interpersonal Moderators of Employee Reactions to Job Characteristics: A Reexamination." Personnel Psychology 32:121-137.

Alderfer, C.P.

1967 "An Organizational Syndrome." Administrative Science Quarterly 12:440-460.

Alutto, J.A., and F. Acito

1974 "Decisional Participation and Sources of Job Satisfaction: A Study of Manufacturing Personnel." Academy of Management Journal 17:160-167.

Alutto, J.A., and J.A. Belasco

1972 "A Typology For Participation in Organizational Decision Making." Administrative Science Quarterly 17:117-125.

Alutto, J.A., and D.J. Vredenburg

1977 "Characteristics of Decisional Participation by Nurses." Academy of Management Journal 20:341-347.

Andrews, F.M., and D.C. Pelz

1976 Scientists In Organizations. Ann Arbor: University of Michigan Press.

Arvey, R.D., and H.D. Dewhirst

1979 "Relationships Between Diversity of Interests, Age, Job Satisfaction and Job Performance." Journal of Occupational Psychology 52:17-23.

Australian Physiotherapy Association

1978 Code of Ethics.

South Melbourne, Vic.: The Australian Physiotherapy Association.

Bachman, J.G., D.G. Bowers, and P.M. Marcus

1968 "Bases of Supervisory Power: A Comparative Study in Five Organizational Settings."

in Control In Organizations, A.S. Tannenbaum (editor); New York: McGraw-Hill Inc., 1968; pgs. 229-237.

Bain, W.

1969 "Turnover of Nursing and Paramedical Staff in 23 Ontario Hospitals."

Canadian Hospital 46:38-41.

Baker, S.H., and R.A. Hansen

1975 "Job Design and Worker Satisfaction: A Challenge To Assumptions."

Journal of Occupational Psychology 48:79-91.

Ballin, A.J., W.H. Breslin, K.A. Scott-Wierenga, and K.F. Shepard

1980 "Research in Physical Therapy."

Physical Therapy 60:888-895.

Barnes, M.R., and C.A. Crutchfield

1977 "Job Satisfaction-Dissatisfaction."

Physical Therapy 57:35-41.

Barrett, G.V., J.B. Forbes, E.J. O'Connor, and R.A. Alexander

1980 "Ability-Satisfaction Relationships: Field and Laboratory Studies."

Academy of Management Journal 23:550-555.

Basmajian, J.V.

1977 "Professional Survival: The Research Role in Physical Therapy."

Physical Therapy 57:283-285.

Bennett, B.A.

1977 "Stimulus and Response: Some Social Indicators of the Physiotherapy Profession." Australian Journal of Physiotherapy 23:21-27.

Bisconti, A., and L.C. Solmon

1977 Job Satisfaction After College: The Graduates' Viewpoint. Bethlehem, Pa.: CPC Foundation.

Blair, D.C.

1979 "Practice of Physiotherapy." Canadian Medical Association Journal 120:519-520.

Blau, J.R.

1979 "Expertise and Power in Professional Organizations." Sociology of Work and Occupations 6:103-123.

Blau, P.M., and W.R. Scott

1962 Formal Organizations: A Comparative Approach. San Franciso: Chandler Publishing Company.

Brook, N., C. Eales, A. Mason, A. Parry, and M. Warren

1978 "Graduate Physiotherapists." Letters. Physiotherapy 64:20.

Bucher, R., and A. Strauss

1961 "Professions In Process." American Journal of Sociology 66:325-334.

Bucher, R., and J. Stelling

1977 "Characteristics of Professional Organizations." in Colleagues in Organizations. R. Blankenship (editor); New York: John Wiley and Sons; pgs. 121-144.

Burstein, M., N. Tienhaara, P. Hewson, and B. Warrander

1975 Canadian Work Values.

Ottawa: Manpower and Immigration, Strategic Planning and Research.

Calbeck, D.C., A.G. Vaden, and R.E. Vaden

1979 "Work-Related Values and Satisfactions."

Journal of The American Dietetic Association 75:434-440.

Canadian Physiotherapy Association

1950 "University of Toronto, The New Course In Physical and Occupational Therapy."

Journal of the Canadian Physiotherapy Association 2:39.

1974 Job Descriptions For Physiotherapists.

Toronto: Canadian Physiotherapy Association.

1974 "Membership Requirements For New Canadian Graduates."

Physiotherapy Canada 26:212.

1978 "New C.P.A. President Replies to C.M.A."

Physiotherapy Canada 30:267.

1979 "Referral Debate Makes Headlines in Ontario."

Physiotherapy Canada 31:41-43.

1979 "C.P.A. President Addresses Question of Referral."

Physiotherapy Canada 31:165.

1981 By-Laws And Standing Rules.

Toronto: Canadian Physiotherapy Association.

Carpenter, H.H.

1971 "Formal Organizational Structural Factors and Perceived Job Satisfaction of Classroom Teachers."

Administrative Science Quarterly 16:460-465.

Carroll, B.

1973 Job Satisfaction. A Review of the Literature.

New York State School of Industrial Labor Relations, Cornell University.

Chartered Society of Physiotherapy

1976 "The Reason Why."

Physiotherapy 62:113.

1978 "Extending Responsibilities."

Physiotherapy 64:197.

1979 "Higher and Further Education."

Physiotherapy 65:84-85.

Cleather, J.

1980 "Research: Key for the '80s."

Physiotherapy Canada 32:133.

Clifton, S.

1979 "Open Access To A Physiotherapy Department."

Physiotherapy 65:308-311.

Cole, J.H.

1978 "The Student Selection Process in Three Countries." Australian Journal of Physiotherapy 24:187-193.

Conine, T.A.

1972 "A Survey of the Graduates of a Professional Physiotherapy Program." Physical Therapy 52:855-861.

Corwin, R.G., M.J. Taves, and J.E. Haas

1961 "Professional Disillusionment." Nursing Research 10:141-144.

Currier, D.P.

1977 "Research In Programs of Initial Physical Therapy Education." Physiotherapy Canada 29:211-213.

Cyriax, J.

1970 "Manipulation By Physiotherapists." Australian Journal of Physiotherapy 16:32-36.

1971 "Manipulation- By Laymen or Physiotherapists?" Journal of the Canadian Physiotherapy Association 23:236-238.

Daniels, L.

1974 "Tomorrow Now: The Master's Degree For Physical Therapy Education." Physical Therapy 54:463-473.

Danziger, J.N.

1979 "The 'Skill Bureaucracy' and Intraorganizational Control." Sociology of Work and Occupations 6:204-226.

Dessler, G., and E.R. Valenzi

1977 "Initiation of Structure and Subordinate Satisfaction: A Path Analysis Test of Path-Goal Theory." Academy of Management Journal 20:251-259.

Dewhirst, H.D., and R.D. Arvey

1976 "Range of Interests VS Job Performance and Satisfaction." Research Management 19:18-23.

Dingwall, R.W.J.

1974 "Some Sociological Aspects of 'Nursing Research'." Sociological Review 22:45-55.

Downey, H.K., J.E. Sheridan, and J.W. Slocum

1975 "Analysis of Relationships Among Leader Behavior, Subordinate Job Performance and Satisfaction: A Path-Goal Approach." Academy of Management Journal 18:253-262.

Dunkel, R.H.

1974 "Survey of Attitudes of Arkansas Physicians and Physical Therapists Toward the Professional Capacity of the Physical Therapist." Physical Therapy 54:584-587.

Dyer, L., D.P. Schwab, and J.A. Fossum

1978 "Impacts of Pay on Employee Behaviors and Attitudes: An Update." The Personnel Administrator 23:51-58.

Edwards, J.K.

1978 "Clinical Practice and Specialization- Avenues for Career Upward Mobility in the Health Care Institution." Physiotherapy Canada 30:230-234.

Esposito, R.R.

1978 "Physicians' Attitudes Toward Early Intervention." Physical Therapy 58:160-167.

Etzioni, A.

1964 Modern Organizations.
Englewood Cliffs, N.J.: Prentice-Hall Incorporated.

1969 The Semi-Professions and Their Organization.
New York: Free Press.

Evers, H.

1977 "Job Dissatisfaction Amongst Medical Secretaries: Some Organizational Considerations."
Social Science and Medicine 2:289-293.

Fisher, C.D.

1980 "On the Dubious Wisdom of Expecting Job Satisfaction to Correlate With Performance."
Academy of Management Review 5:607-612.

Fowler, J.R.

1961 "The School of Physical and Occupational Therapy, University of Alberta."
Journal of the Canadian Physiotherapy Association 13:21-24.

Frazer, F.W.

1978 "You Too Could Be A Doctor."
Physiotherapy 64:7.

Galley, P.

1975 "Ethical Principles and Patient Referral."
Australian Journal of Physiotherapy 21:97-100.

1976 "Patient Referral and The Physiotherapist."
Australian Journal of Physiotherapy 22:117-120.

1977 "Physiotherapists As First-Contact Practitioners."
Physiotherapy 63:246-248.

Gartland, G.J.

1977 "Synopsis of A Study of Admissions Criteria For Physical Therapy Programs."
Physiotherapy Canada 29:7-10.

Glaser, B.G.

1964 Organizational Scientists: Their Professional Careers.
Indianapolis: The Bobbs-Merrill Company Incorporated.

Godfrey, M.A.

1978 "Job Satisfaction."
Nursing '78 8:13-25.

Goetz, L.J.

1978 "Are PTs Assuming a Passive Role in the Care of Their Patients?"
Opinions and Comments. Physical Therapy 58:624-626.

Goldberg, A.I.

1976 "The Relevance of Cosmopolitan/Local Orientations To Professional Values and Behavior."
Sociology of Work and Occupations 3:331-356.

Goodwin, M.

1972 Correlates of Career Choice.
Vancouver: University of British Columbia.

Gordon, M.E., and R.D. Arvey

1975 "The Relationship Between Education and Satisfaction With Job Content."
Academy of Management Journal 18:888-897.

Gouldner, A.W.

1957 "Cosmopolitans and Locals: Towards an Analysis of Latent Social Roles." Administrative Science Quarterly 2:281-306;444-480.

Government of Alberta

1955 Statutes of the Province of Alberta. The Chartered Physiotherapists Act, Chapter 43.

1980 Alberta Health and Social Services Disciplines Committee. Department of Advanced Education and Manpower:February, 1980.

Greene, C.N., and D.W. Organ

1973 "An Evaluation of Causal Models Linking The Received Role With Job Satisfaction." Administrative Science Quarterly 18:95-103.

Hall, O.

1970 The Paramedical Occupations in Ontario. Queen's Printer: Toronto.

Hall, R.H.

1967 "Some Organizational Considerations in the Professional-Organizational Relationship." Administrative Science Quarterly 12:461-478.

Helewa, A.

1979 "C.P.A. 1979 Congress- President's Address." Physiotherapy Canada 31:276-277.

1979 "The Referral Debate Continues." Physiotherapy Canada 31:289-290.

Heylings, J.

1954 "Our Profession."

Correspondence, Physiotherapy 40:123-124.

Hislop, H.J.

1975 "The Not-So-Impossible Dream."

Physical Therapy 55:1069-1080.

Hislop, H.J., and C. Worthingham

1958 "An Analysis of Physical Therapy Education and Careers."

The Physical Therapy Review 38:228-241.

House, R.J., A.C. Filley, and S. Kerr

1971 "Relation of Leader Consideration and Initiating Structure To R and D Subordinates' Satisfaction."

Administrative Science Quarterly 16:19-30.

Hurka, H.K.

1974 "Organizational Environment and Work Satisfaction."

Dimensions In Health Service 51:41-43.

Irving, G., and P. Foreman

1979 "Personality Characteristics of Physiotherapy Students."

Australian Journal of Physiotherapy 25:11-14.

Ivancevich, J.M.

1970 "An Analysis of Control, Bases of Control and Satisfaction In An Organizational Setting."

Academy of Management Journal 13:427-436.

1978 "The Performance To Satisfaction Relationship: A Causal Analysis of Stimulating and Nonstimulating Jobs."

Organization Behavior and Human Performance 22:350-365.

Ivancevich, J.M., M. Matteson, and J.T. McMahon

1980 "Understanding Professional Job Attitudes."
Hospital and Health Services Administration 25:53-68.

James, L.R., and A.P. Jones

1980 "Perceived Job Characteristics and Job Satisfaction: An Examination of Reciprocal Causation."
Personnel Psychology 33:97-135.

Johnson, G.R.

1974 "Physical Therapy Education- The Future."
Physical Therapy 54:37-42.

Johnston, R.

1975 "Pay and Job Satisfaction- A Survey of Some Research Findings."
International Labour Review 111:441-449.

Kalleberg, A.L.

1974 "A Causal Approach to the Measurement of Job Satisfaction."
Social Science Research 3:299-322.

1977 "Work Values and Job Rewards: A Theory of Job Satisfaction."
American Sociological Review 42:124-143.

Kalleberg, A.L., and L.J. Griffin

1978 "Positional Sources of Inequality In Job Satisfaction."
Sociology of Work and Occupations 5:371-401.

Katz, F.E.

1965 "Explaining Informal Work Groups In Complex Organizations: The Case For Autonomy In Structure."
Administrative Science Quarterly 10:204-223.

1968 Autonomy And Organization: The Limits of Social Control.
New York: Random House Incorporated.

1969 "Nurses." in The Semi-Professions and Their Organization.
A. Etzioni (editor); New York: Free Press; pgs. 54-81.

Katz, F.M., K. Mathews, T. Pepe, and R.H. White
1976 Stepping Out: Nurses and Their New Roles.
Kensington, Australia: New South Wales University Press Limited.

Keaveny, T.J., J.H. Jackson, and J.A. Fossum
1978 "Are There Sex Differences in Job Satisfaction?"
The Personnel Administrator 23:55-58.

Keller, R.T., and A.D. Szilagyi
1978 "A Longitudinal Study of Leader Reward Behavior, Subordinate Expectancies and Satisfaction."
Personnel Psychology 31:119-129.

Kibbey, C.A.
1978 "PT, An Endangered Species?"
Opinions and Comments. Physical Therapy 58:482.

Kornhauser, W.
1963 Scientists In Industry: Conflict and Accomodation.
Berkely: University of California Press.

Kronus, C.L.
1976 "Occupational Versus Organizational Influences On Reference Group Indentification."
Sociology of Work and Occupations 3:303-330.

Lansbury, G.F.

1971 "Is Physiotherapy Truly Professional?"
Australian Journal of Physiotherapy 17:135-137.

Lawler, E.E., and L.W. Porter

1967 "The Effect of Performance On Job Satisfaction."
Industrial Relations 6:20-28.

Leslie, M.

1979 "The Building of an Infrastructure for Professional Independence and Political Action."
Physiotherapy Canada 31:280-283.

Love, J.E.

1977 "A Study of the Relationships Between Perceived Organizational Stratification and Individual Job Satisfaction and Adaptiveness in Hospital Laboratories."
American Journal of Medical Technology 43:1135-1143.

Lubkowski, J.

1974 "The Dilemma of A Diploma Graduate."
Physiotherapy Canada 26:30-31.

Lyon, H.L., and J.M. Ivancevich

1974 "An Exploratory Investigation of Organizational Climate and Job Satisfaction in a Hospital."
Academy of Management Journal 17:635-648.

MacEachron, A.E.

1977 "Two Interactive Perspectives on The Relationship Between Job Level and Job Satisfaction."
Organization Behavior and Human Performance 19:226-246.

Maimon, Z., and S. Ronen

1978 "Measures of Job Facets Satisfaction as Predictors of the Tendency to Leave or the Tendency to Stay With an Organization."
Human Relations 31:1019-1030.

Marcson, S.

1972 "Research Settings." in The Social Contexts of Research,
S.Z. Nagi and R.G. Corwin (editors); London: John Wiley and Sons;
pgs. 161-191.

1979 "The Autonomy of Scientists."
British Journal of Sociology 30:120-124.

Marsden, J.C.

1979 "Future Simple?"
Physiotherapy 65:83.

Martin, T.N.

1979 "A Contextual Model of Employee Turnover Intentions."
Academy of Management Journal 22:313-324.

McKelvey, B., and U. Sekaran

1977 "Toward A Career-Based Theory of Job Involvement: A Study of Scientists and Engineers."
Administrative Science Quarterly 22:281-305.

McMahon, J.T., and J.M. Ivancevich

1976 "A Study of Control in a Manufacturing Organization: Managers and Nonmanagers."
Administrative Science Quarterly 21:66-83.

McPhee, B.

1977 "Physiotherapy- Open Minds?"
Australian Journal of Physiotherapy 23:165-169.

Mechanic, D.

1976 The Growth of Bureaucratic Medicine.

New York: John Wiley and Sons.

Mercer, J.

1978 Aspects of Professionalisation in Professions Supplementary to Medicine.

Unpublished Ph.D. Dissertation. London: University of London.

1980 "Physiotherapy as a Profession."

Physiotherapy 66:180-184.

Miller, G.A.

1967 "Professionals in Bureaucracy: Alienation Among Industrial Scientists and Engineers."

American Sociological Review 32:755-768.

1977 "Beyond Ad-Hocracy."

Pacific Sociological Review 20:43-59.

Mitchell, T.R., Smyser, C.M., and S.E. Weed

1975 "Locus of Control: Supervision and Work Satisfaction."

Academy of Management Journal 18:623-630.

Moore, D.W.

1978 "Specialization- Professional Growth or Fragmentation?"

Physiotherapy Canada 30:249-252.

Mumford, E.

1970 "Job Satisfaction- A New Approach Derived From an Old Theory."

Sociological Review 18:71-101.

1972 Job Satisfaction.

London: Longman.

Munson, F.C., and S.S. Heda

1976 "Service Unit Management and Nurses' Satisfaction."
Health Services Research 11:128-142.

Mussallem, H.K.

1967 "Manpower Problems in Nursing."
The Canadian Nurse 63:25-28.

Nealey, S.M., and T.W. Owen

1970 "A Multitrait-Multimethod Analysis of Predictors and Criteria of Nursing Performance."
Organizational Behavior and Human Performance 5:348-365.

Nicholson, M.H.

1954 "Changes in Therapy Course at McGill."
Journal of the Canadian Physiotherapy Association 6:7-8.

Nordholm, L.A., and M.T. Westbrook

1979 "Graduating Physiotherapists' Perceptions of Their Career Choice."
Australian Journal of Physiotherapy 25:219-223.

O'Brien, G.E., and P. Dowling

1980 "The Effects of Congruency Between Perceived and Desired Job Attributes Upon Job Satisfaction."
Journal of Occupational Psychology 53:121-130.

Onuoha, A.

1980 "Demographic Characteristics of Educators in Physical and Occupational Therapy Programs in Canadian Universities."
Physiotherapy Canada 32:331-334.

Pady, A.

1974 "Degree VS Diploma- The Proposal Viewed by a Degree Graduate."
Physiotherapy Canada 26:29-30.

Palola, E., and W. Larson

1965 "Some Dimensions of Job Satisfaction Among Hospital Personnel."
Sociology and Social Research 49:201-213.

Peat, M.

1981 "Physiotherapy: Art or Science?"
Physiotherapy Canada 33:170-176.

Pelz, D.C., and F.M. Andrews

1966 "Autonomy, Co-ordination, and Stimulation in Relation to
Scientific Achievement."
Behavioral Science 11:89-97.

Pollard, L.B.

1962 "Publish or Perish."
Letters to the Editor. Journal of the Canadian
Physiotherapy Association 14:31.

Price, J.L.

1977 The Study of Turnover.
Ames: Iowa State University Press.

Probert, J.E.

1976 "Ethical Principles."
Correspondence. Australian Journal of Physiotherapy 22:53-54.

Prybil, L.D.

1973 "Job Satisfaction in Relation to Job Performance and
Occupational Level.
Personnel Journal 52:94-100.

Redfern, S.J.

1980 "Hospital Sisters: Work Attitudes, Perceptions and Wastage."
Journal of Advanced Nursing 5:451-466.

Reeder, S.J., and H. Mauksch

1979 "Nursing: Continuing Change." in Handbook of Medical Sociology. H.E. Freeman, S. Levine, and L.G. Reeder (editors); Englewood Cliffs, N.J.: Prentice-Hall Incorporated; pgs. 209-229.

Rettig, S., and B. Pasamanick

1959 "Status and Job Satisfaction of Public School Teachers." School and Society 87:113-116.

Ritti, R.R.

1970 "Underemployment of Engineers." Industrial Relations 9:437-452.

Ruh, R.A., J.K. White, and R.R. Wood

1975 "Job Involvement, Values, Personal Background, Participation in Decision Making and Job Attitudes." Academy of Management Journal 18:300-312.

Sadler, P.J.

1970 "Leadership Style, Confidence in Management and Job Satisfaction." Journal of Applied Behavioral Science 6:3-19.

Salancik, G.R., and J. Pfeffer

1977 "An Examination of Need-Satisfaction Models of Job Attitudes." Administrative Science Quarterly 22:427-456.

Sauser, W.I., and C.M. York

1978 "Sex Differences in Job Satisfaction: A Re-Examination." Personnel Psychology 31:537-547.

Schwab, D.P., and L.L. Cummings

1970 "Theories of Performance and Satisfaction: A Review." Industrial Relations 9:408-430.

Schuler, R.S.

1976 "Participation With Supervisor and Subordinate Authoritarianism: A Path-Goal Theory Reconciliation."
Administrative Science Quarterly 21:320-325.

Semple, J.E.

1974 "Degree VS Diploma- In Support of a Degree For Full Membership in the C.P.A."
Physiotherapy Canada 26:28-29.

Shepard, J.M.

1970 "Functional Specialization, Alienation and Job Satisfaction."
Industrial and Labor Relations Review 23:207-219.

1973 "Specialization, Autonomy and Job Satisfaction."
Industrial Relations 12:274-281.

Slavitt, D.B., P.L. Stamps, E.B. Piedmont, and A.M. Haase

1978 "Nurses' Satisfaction With Their Work Situation."
Nursing Research 27:114-120.

Slocum, J.W.

1970 "Performance and Satisfaction: An Analysis."
Industrial Relations 9:431-436.

Smith, F.J., K.D. Scott, and C.L. Hulin

1977 "Trends in Job-Related Attitudes of Managerial and Professional Employees."
Academy of Management Journal 20:454-460.

Smith, P.C., L.M. Kendall, and C.L. Hulin

1969 The Measurement of Satisfaction in Work and Retirement.
Chicago: Rand McNally and Company.

Souder, W.E.

1974 "Autonomy, Gratification and R & D Outputs: A Small Sample Field Study."
Management Science 20:1147-1156.

Stamps, P., E. Piedmont, D. Slavitt, and A.M. Haase

1978 "Measurement of Work Satisfaction Among Health Professionals."
Medical Care 16:337-352.

Statistics Canada

1976 Compendium of Selected Health Manpower Statistics.
Ottawa: Statistics Canada, Catalogue No. 83-231, March.

1976 Hospital Statistics- Beds, Services, Personnel.
Ottawa: Statistics Canada, Catalogue No. 83-227, February.

Stinson, J.E., and T.W. Johnson

1977 "Tasks, Individual Differences and Job Satisfaction."
Industrial Relations 16:315-322.

Stirling, J.H.

1965 "The Difficulties of Private Practice."
Correspondence. Physiotherapy 51:234.

Strilaeff, F.

1978 "How Work Organization Affects Nursing Turnover."
Dimensions In Health Service 55:28-31.

Tannenbaum, A.S., and W.J. Kuleck

1978 "The Effect on Organization Members of Discrepancy Between Perceived and Preferred Rewards Implicit in Work."
Human Relations 31:809-822.

Taveggia, T., and R.A. Hedley

1976 "Discretion and Work Satisfaction."
Pacific Sociological Review 19:351-365.

Tebay, R.

1978 "Physiotherapy- A Developing Profession."
Letters. Physiotherapy 64:56.

Thomas, A., S. Horstein, M. Martin, T. Tilbury, M. Bolduc

1980 "Physiotherapy's Future: Student Views."
Physiotherapy Canada 32:98-99.

Thompson, C.

1973 "Educational Trends in Canada."
Physiotherapy Canada 25:97-106.

Ussher B., and L.S. Holley

1963 "A Survey of Inactive Physical Therapists."
Physical Therapy 43:100-104.

Van de Meene, L.W.

1978 "Can and Should Physiotherapists Specialize?"
Australian Journal of Physiotherapy 24:60-62.

Van Maanen, J., and R. Katz

1976 "Individuals and Their Careers: Some Temporal Considerations For Work Satisfaction."
Personnel Psychology 29:601-616.

Walker, J.M., and J.A. Gordon

1977 "Canadian Physiotherapy Educators: A Changing Pattern."
Physiotherapy Canada 29:12-14.

Walmsley, R., and G. Snewing

1970 "The Changing Role of the Physical Therapist in Canada." Journal of the Canadian Physiotherapy Association 22:248-250.

Wandelt, M.A., P.M. Pierce, and R.R. Widdowson

1981 "Why Nurses Leave Nursing and What Can Be Done About It." American Journal of Nursing 81:72-77.

Ward, A.W.M., C.M. Davidson, and B.J. Francis

1977 "Physiotherapists' Careers." Physiotherapy 63:314-315.

Wardwell, W.I.

1979 "Limited and Marginal Practitioners." in Handbook of Medical Sociology, H.E. Freeman, S. Levine, and L.G. Reeder (editors); Prentice-Hall Incorporated; pgs. 230-250.

Weaver, C.N.

1974 "Correlates of Job Satisfaction: Some Evidence From the National Surveys." Academy of Management Journal 17:373-375.

1977 "Relationships Among Pay, Race, Sex, Occupational Prestige, Supervision, Work Autonomy and Job Satisfaction in a National Sample." Personnel Psychology 30:437-445.

1977 "Occupational Prestige as a Factor in the Net Relationship Between Occupation and Job Satisfaction." Personnel Psychology 30:607-612.

Wellock, L.M.

1975 "Comparison of Opinions, Attitudes and Interests of Physical Therapy Students With Other Students at the University of Michigan." Physical Therapy 55:371-375.

White, C.H.

1980 "Where Have all the Nurses Gone and Why?"
Hospitals 54:68-71.

White, T.H.

1972 Power and Autonomy In Organizations.
Unpublished Ph.D. Dissertation. Toronto: University of Toronto.

Wilensky, H.L.

1964 "The Professionalization of Everyone?"
American Journal of Sociology 70:137-158.

Wiles, P.

1954 "Theory and Practice."
Correspondence. Physiotherapy 40:53.

Williams, A., B. Livy, R. Silverstone, and P. Adams

1979 "Factors Associated With Labour Turnover Among Ancillary Staff in Two London Hospitals."
Journal of Occupational Psychology 52:1-16.

Woodbury, M.G., and M. Peat

1980 "Employment Patterns and Related Opinions: A Survey of Physical Therapists."
Physiotherapy Canada 32:11-16.

Worthingham, C.A.

1969 "The 1961 and 1965 Graduates of the Physical Therapy Schools."
Physical Therapy 49:476-499.

1970 "Study of Basic Physical Therapy Education: V Request (Prescription or Referral) For Physical Therapy."
Physical Therapy 50:989-1031.

1970 "Study of Basic Physical Therapy Education: VI Findings of the Study in Relation to Trends in Patient Care and Education." Physical Therapy 50:1315-1332.

Wright, J.D., and R.F. Hamilton

1979 "Education and Job Attitudes Among Blue-Collar Workers." Sociology of Work and Occupations 6:59-83.

Zaleznik, A., C.R. Christensen, and F.J. Roethlisberger

1965 The Motivation, Productivity, and Satisfaction of Workers–A Prediction Study. Boston: Harvard University.

II. Research Problem and Hypotheses

A. Introduction

In Chapter I, limited task autonomy was discussed as being a possible factor contributing to lowered job satisfaction levels of practicing non-supervisory physiotherapists. Variables to be used in this investigation of relationships between task autonomy and job satisfaction are presented in Chapter II. The theoretical basis for each of these variables will be discussed. Suggested variable relationships are developed and hypotheses to be tested empirically are outlined in the concluding sections of this chapter. Operational definitions are included in Chapter III.

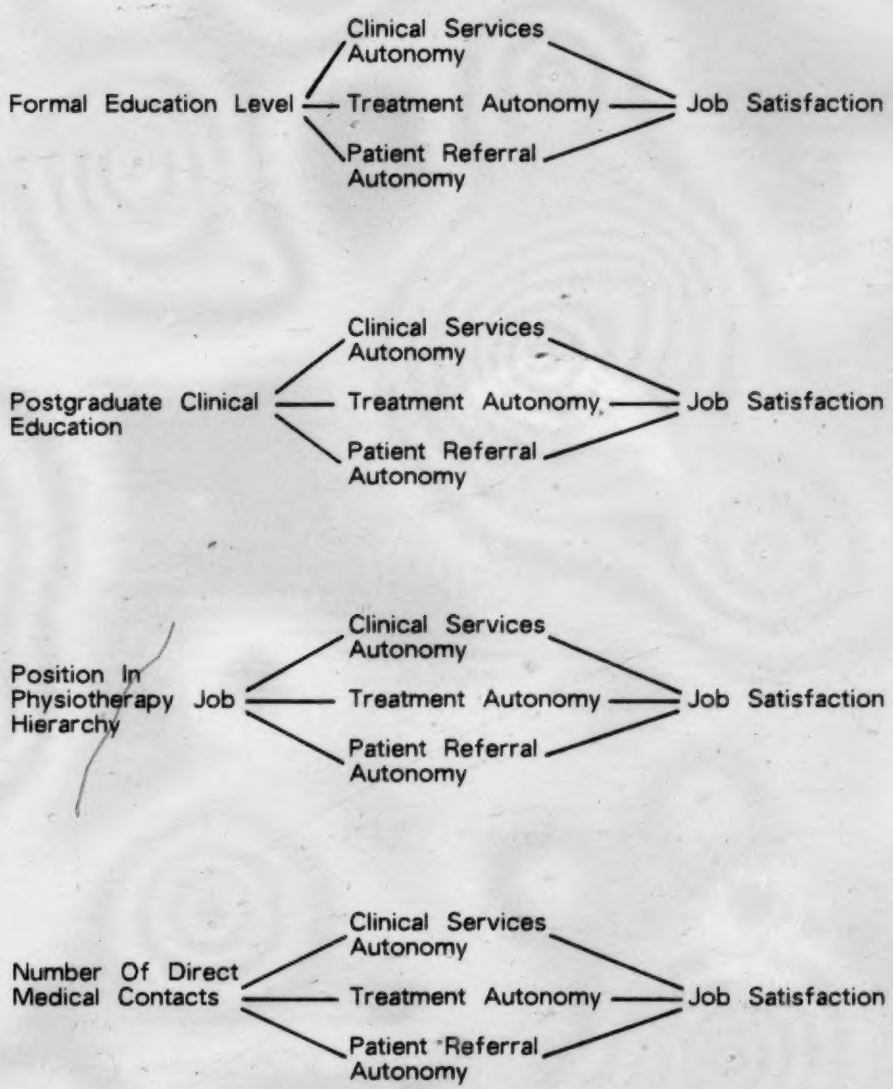
B. The Research Model

The eight variables to be used in this study are presented in a model format (see figure 2-1) . This is a graphic representation of the major variable relationships that are to be examined. Several relationships based on physiotherapy occupation issues discussed in Chapter I are suggested by this model. The variety of education backgrounds found among practicing physiotherapists was emphasized. It was suggested that therapists with higher formal education levels or greater numbers of clinical postgraduate courses might expect to work in minimally supervised settings which allow experimentation with different treatment techniques. Therapists holding more junior positions in the physiotherapy job hierarchy might not be as satisfied with their jobs. Senior therapists are less likely to be assigned to different clinical services whereas those in junior positions often are. Amounts of control that referring physicians may exercise over the job-related activities of physiotherapists was an issue also discussed in Chapter I. A therapist's task autonomy level might be altered by direct communication with referring physicians. For example, through therapist-physician communication networks, a therapist may obtain permission to practice new treatment techniques.

Task autonomy in this study will be measured by the three variables, clinical services autonomy, treatment autonomy, and patient referral autonomy. Levels of control that therapists have during patients' treatments may be influenced by certain factors associated with each of these three variables. These factors are discussed in subsequent

Figure 2-1

Task Autonomy-Job Satisfaction Relationships


Formal Education Level
Clinical Services Autonomy
Treatment Autonomy
Patient Referral Autonomy
Job Satisfaction
Postgraduate Clinical Education
Clinical Services Autonomy
Treatment Autonomy
Patient Referral Autonomy
Job Satisfaction
Position In Physiotherapy Job Hierarchy
Clinical Services Autonomy
Treatment Autonomy
Patient Referral Autonomy
Job Satisfaction
Number Of Direct Medical Contacts
Clinical Services Autonomy
Treatment Autonomy
Patient Referral Autonomy
Job Satisfaction

The Research Model

sections. It is suggested here that the dependent variable, job satisfaction, is likely to be influenced by perceived task autonomy levels. Job satisfaction levels may be lower for therapists who feel that their work settings offer lower levels of clinical services autonomy, treatment autonomy, or patient referral autonomy. As suggested previously, an individual's task autonomy perceptions are likely to be affected by varying levels in the first four variables specified by this model. These variables are formal education level, amount of postgraduate clinical education, position in the physiotherapy job hierarchy, and number of direct medical contacts. Interrelationships between all model components will be discussed in subsequent sections. Theoretical definitions for each of these variables are now presented in detail.

C. The Model Components

Formal Education Level

In Chapter I, it was indicated that physiotherapists trained in Canada have been able to practice with either a degree or diploma in physiotherapy. Formal education levels of therapists working in Canada may also differ due to a reciprocal work exchange between Australian, Canadian, British, South African, and New Zealand trained therapists. Job advertisements in Physiotherapy Canada indicate that these therapists are automatically eligible for membership in the Canadian Physiotherapy Association until September 30, 1982. However, the emphasis of physiotherapy programmes offered in these various countries differs. For example, in Great Britain, the Chartered Society of Physiotherapy offers in most cases a diploma training with more of a clinical emphasis. Students study anatomy, physiology, pathology, psychology, and treatment methods throughout a three year programme. Most Canadian degree programmes require that students complete courses in research methods and management in addition to these clinical subjects (Piercy, 1977; Cole, 1978).

Variation in education backgrounds of practicing therapists has tended to result in differences of attitude towards issues related to alternative career options requiring higher levels of task autonomy. Those with a stronger clinical training are less likely to be as supportive of graduate education or research in physiotherapy but more likely to view physiotherapy as being exclusively a practical occupation (Bartlett, 1977; Australian

Physiotherapy Association, 1980; Soutar, 1980). It is suggested in this presentation that task autonomy expectations of clinical physiotherapists are likely to be influenced by formal education levels. Since degree holders are more likely to have completed research methods courses, their interest in clinical research opportunities might be greater. Therefore, it is further suggested that job satisfaction levels may be lower for these therapists who are unable to develop clinical projects or specialized interests due to treatment restrictions or inappropriate patient caseloads.

Postgraduate Clinical Education

Postgraduate clinical education is not compulsory for renewal of a membership in the Canadian Physiotherapy Association or for licensure in any province. Therapists are, however, encouraged to attend courses to learn of the more recent treatment approaches (Canadian Physiotherapy Association, 1974 and 1976). Postgraduate clinical education levels are likely to vary due mainly to a lack of incentives to update clinical knowledge. Physiotherapy departments often use seniority instead of clinical education as a major criterion for promotions (Edwards, 1978). In addition, postgraduate clinical courses are often expensive and employers tend to be reluctant in helping with these expenses (Hall, 1970). Although courses in many clinical specialization areas are offered to practicing physiotherapists, attendance at these courses generally depends on the interest of individual therapists.

It is suggested here that task autonomy expectations and job satisfaction levels may be influenced by postgraduate clinical education levels. Therapists who have acquired specialized skills may be more dissatisfied with their jobs if new treatment techniques cannot be practiced due to disapproval by referring physicians or an assignment on a clinical service where the use of such skills is inappropriate.

Position in the Physiotherapy Job Hierarchy

In Chapter I, a summary of major points included in the job description guidelines published by the Canadian Physiotherapy Association indicated that therapists in junior positions usually work under a greater number of job-related controls. In addition to treating patients who may be assigned by physiotherapy supervisors, these therapists are more likely to be assigned to clinical services. Job advertisements in Physiotherapy Canada often state that for therapists in junior positions, rotation to different clinical services is a condition of employment.

Therapists in more senior positions usually do not rotate. Also, these therapists are more likely to experience variation in their work content. In addition to treating patients, they are more likely to participate in supervisory activities such as planning new departmental clinical services or supervising physiotherapy students. However, seniority is usually not transferrable between work settings. If a highly skilled therapist changes a place of employment, this individual may have to accept a junior position in a new setting (Pawlyn and West, 1978).

It is suggested here that job satisfaction levels of therapists in junior positions may be lowered if specialized clinical skills cannot be developed in their work settings. An assigned patient caseload on a particular clinical service might be unsuitable. For example, a therapist with postgraduate training in sports medicine is not likely to be able to use heavy resistance exercise techniques on a service which treats geriatric patients.

Number of Direct Medical Contacts

An individual physiotherapist is usually responsible for establishing contacts with referring physicians and when appropriate, other health care workers (Canadian Physiotherapy Association, 1974). Therefore, the amount of direct physician contact is likely to vary with each therapist. Often therapists are expected to make an effort to contact physicians. Whether or not any contact is made is optional because to treat most patients, this contact is unnecessary. Consultation with physicians is more likely to be viewed by therapists as being time consuming and tedious. Physicians may indicate that they are too busy or express negative opinions about the value of certain physiotherapy treatments (Freidson, 1970; Ross et al., 1980). However, greater numbers of direct medical contacts might enable therapists to obtain higher levels of task autonomy.

A therapist is more likely to obtain permission to practice a specialized treatment technique if this new physiotherapy treatment is discussed with referring physicians. If physiotherapists provide physicians with information about rehabilitation services available in their departments, the number of referred patients who will not benefit from physiotherapy treatments might be reduced. It is suggested here that therapists with greater numbers of direct medical contacts may experience higher job satisfaction levels due to higher task autonomy levels obtained through therapist-physician communication networks.

Task Autonomy

The basic job of a physiotherapist is to assess and treat specific musculo-skeletal problems of referred patients using physical agents such as massage, exercise, and electricity (Canadian Physiotherapy Association, 1974). A therapist's control over the task of treating patients will be referred to as task autonomy. Task-related control may be maximized if a therapist is able to choose the medical service in which work is performed. Task autonomy levels may also be increased if a therapist is able to make decisions about any physical modalities to be used when treating patients. Control may be further maximized if physicians' referrals reflect the clinical interests that a therapist might have.

A therapist's control over the medical service in which work is performed (clinical services autonomy) may be limited by a hospital department's clinical services rotation policy. It is suggested here that therapists with specific clinical interests are likely to experience lower job satisfaction levels if assigned clinical services do not provide any opportunities for development of these interests.

A therapist's control over choices of physiotherapy techniques to be used during treatments (treatment autonomy) may be limited by a department supervisor or medical practitioner who does not approve of the use of certain techniques. As discussed in Chapter I, referring physicians and department supervisors can control work activities of paramedical therapists. It is suggested here that job satisfaction levels may be lower among therapists who perceive that treatment autonomy levels are insufficient to allow experimentation with more recent or highly specialized treatment techniques. A department might also enforce treatment guidelines that support a physician's physiotherapy treatment preferences. Certain physicians may request that their patients are to be treated at all times with the same routine physiotherapy procedures. For example, a physician might expect all his patients with back problems to be treated with a specified set of back exercises and no other types of physiotherapy treatments are to be used. In these circumstances, a therapist may be in a position where a particular technique is considered to be of value to a patient but this procedure cannot be used as part of the treatment.

Consultation with physicians may increase a therapist's control over ways in which patients are referred by physicians for physiotherapy treatments (patient referral autonomy). Therapist-physician contact is more likely to result in a patient referral mode which does involve physician contact if this is a therapist's preference. However, physicians may choose to refer patients using direct or indirect methods of contact. A physician might know about an individual therapist's specialized clinical skills and consequently specify that patients are to be treated by this therapist. Physicians have the option of establishing consultant relationships with a therapist or referring patients without any contact. They can also send patients to be treated by any therapist in a work setting. These therapists receive prescriptions from physicians with no contact between therapist and physician. A therapist then has an option of establishing contact with referring physicians in this indirect referral situation if physician contact is preferred (Mercer, 1978).

It is suggested here that job satisfaction levels are likely to be higher among physiotherapists who perceive that patient referral autonomy levels in their work settings are sufficient to allow therapists to complete treatment tasks with a minimum of difficulties. Since interaction with referring physicians may increase treatment autonomy levels, it is further suggested that therapists are likely to prefer a greater number of direct referrals in consultant relationships. A therapist may then more easily contact referring physicians if problems arise during the treatments of their patients. In addition, therapists are in a better position to be able to influence types of caseloads referred for treatments. If a therapist wants to develop a particular clinical skill, a preference to have patients with specific medical conditions referred for physiotherapy treatments may then be indicated.

Job Satisfaction

An employee's satisfaction with his current job may be defined in terms of this employee liking more aspects of his work than he dislikes (Vroom, 1964; Mumford, 1970). However, there is little agreement on how these aspects are to be defined or measured. A comprehensive theoretical model of job satisfaction does not exist. Current definitions usually assume that employee satisfaction levels are mainly influenced by characteristics of a specific job or an employee's psychological state (cf., Carroll, 1973).

Job referent approaches usually assume the former while definitions based on psychological need hierarchies tend to assume the latter (cf., Maslow, 1970; Herzberg, 1966). Since at present there is no preferred single theoretical or operational definition of job satisfaction, definitions which assume that employees have specified psychological needs which must be satisfied by various job characteristics if a state of job satisfaction is to be achieved, may be based on a questionable assumption. Empirical tests generally do not support Maslow's need theory (Salancik and Pfeffer, 1977). In spite of varied assumptions and uncertain empirical foundations, job satisfaction measures which ask employees to indicate positive or negative feelings about specified or unspecified job characteristics usually provide sufficient information about various objective job-related factors (Seashore and Taber, 1976). Such measures enable an investigator to make between group comparisons of job satisfaction levels even if the theoretical assumptions differ.

A job referent approach is used in this study. Five specific aspects of any job appear to be major sources of job-related satisfaction and dissatisfaction. These factors are the work, pay, co-workers, supervision, and promotions (Vroom, 1964; Smith et al., 1969). An employee's satisfaction level is determined by an indication of satisfaction or dissatisfaction with various items related to each of these factors. Employees are considered to be more satisfied with their jobs if they indicate that they are satisfied rather than dissatisfied with a greater number of items. One of the more widely used job satisfaction scales of this type is the Job Descriptive Index (JDI) (Smith et al., 1969). It is employed in this study and is discussed in more detail in Chapter III.

D. Variable Relationships

In Chapter I, task autonomy was discussed as an important factor associated with employee job satisfaction levels when employees perceive that task autonomy levels are not sufficient to facilitate completion of job-related tasks. Under these circumstances, lowered job satisfaction levels are more likely to result. It is suggested in Chapter II that job controls present in physiotherapy work settings may be operating to lower task autonomy levels and therefore, job satisfaction levels of practicing physiotherapists.

Four variables which may influence a therapist's perception of task autonomy levels have been discussed. It is proposed here that graduates from degree programmes in physiotherapy are more likely to have clinical research interests. Therefore, a therapist's formal education level may influence job satisfaction levels if this individual is interested in developing specialized clinical research skills but is unable to do so due to job controls. Therapists with greater numbers of postgraduate clinical courses might expect to develop any treatment skills acquired at these courses. Job satisfaction scores are likely to be lower if task autonomy levels are perceived to be insufficient to allow experimentation with various treatment techniques. It has also been suggested that therapists in more junior positions in the physiotherapy job hierarchy are likely to work with greater numbers of job-related controls and therefore, job satisfaction levels may be lower for therapists in this group. Since physicians can control work-related activities of physiotherapists, greater numbers of direct medical contacts might operate to increase job satisfaction levels because a therapist may then be in a better position to obtain more control over treatment-related tasks through negotiation with referring physicians.

Therapists may experience varying levels of control in three task areas related to treatment of patients. It has been suggested in this chapter that job satisfaction levels are likely to be lower for therapists who experience restricted clinical services autonomy when assigned to services where there is a lack of opportunities to develop specific treatment interests. It has also been suggested that a therapist who experiences restricted treatment autonomy when referring physicians or physiotherapy supervisors disapprove of the use of certain treatment techniques even though this individual thinks that these modalities may be of use to patients might inidicate lowered job satisfaction.

Another broad proposal discussed in this chapter is that job satisfaction levels are likely to be higher for therapists with higher levels of patient referral autonomy. Through direct contact with referring physicians, a therapist may be able to influence ways in which patients are referred for treatment. Although indirect referrals with no physician contact might be a preferred method of patient referrals, it has been suggested that direct referrals in consultant relationships are more likely to be favoured. In the latter instance, physicians refer patients to a particular therapist in two-way communication networks. This method is likely to have the advantage of easy access to physicians should problems arise during treatments. In addition, it is through physician contacts that therapists have possibilities of being able to influence the clinical content of patient caseloads and whether or not certain treatment techniques may be used.

In Chapter II, it has been further suggested that relationships between certain variables and each of the three task autonomy variables are likely to be stronger. Job satisfaction levels may be lower for therapists with higher formal education levels working in restricted clinical services autonomy or low treatment autonomy situations. It might be difficult to develop clinical interests if assigned clinical services or referring physicians do not permit the use of specialized physiotherapy techniques. Job satisfaction levels may also be lower for therapists with a greater number of postgraduate clinical courses but work in settings with lower levels of clinical services autonomy or restricted treatment autonomy. Opportunities to practice specialized skills may be unavailable due to an inappropriate patient caseload on an assigned service. Job satisfaction levels are likely to be lower for therapists who hold more junior positions in the physiotherapy job hierarchy and work in restricted clinical services autonomy situations. These therapists often change clinical services every few months. Certain services may not offer preferred clinical opportunities. The number of direct medical contacts might influence relationships between patient referral autonomy and job satisfaction. A therapist who has established numerous physician contacts is likely to experience higher job satisfaction levels in what is perceived to be a low patient referral autonomy situation. This individual may be in a better position to develop a preferred referral method through greater amounts of therapist-physician contact within already established communications networks.

E. Research Problem

The purpose of this study is to establish whether task autonomy may be an important predictor of job satisfaction levels for practicing non-supervisory physiotherapists. In Chapter I, restricted task autonomy and few physiotherapy career options were discussed as two major factors which may be associated with lower job satisfaction levels. It is suggested here that task autonomy might be the more important of these two factors when as discussed in Chapter I, task autonomy expectations of recent physiotherapy graduates may be changing due to an increasing emphasis on clinical physiotherapy research in the Canadian university-based rehabilitation programmes. It was emphasized in the previous chapter that existing job controls in hospital work settings tend to hinder development of alternative clinical roles for paramedical therapists. Physiotherapists are usually employed to offer a more limited technical service under the direction of referring physicians and immediate physiotherapy supervisors. Job satisfaction levels for clinical physiotherapists are likely to be lower if therapists now expect to be able to develop a variety of clinical projects in minimally supervised work settings but are unable to do so with current job controls.

The variables to be employed in an empirical investigation of this research problem have been discussed in Chapter II. Several relationships between certain variables have also been proposed. Hypotheses developed from this discussion are now presented.

Hypotheses

The hypotheses to be tested statistically are outlined in detail as follows.

1. The literature indicates that reduced task autonomy may be a factor operating to lower job satisfaction levels among clinical physiotherapists.
    a. job satisfaction levels will be higher among physiotherapists working in settings with higher clinical services autonomy levels.
    b. job satisfaction levels will be higher among physiotherapists working in settings with higher treatment autonomy levels.
    c. job satisfaction levels will be higher among physiotherapists working in settings with higher patient referral autonomy levels.

    It is proposed here that job satisfaction levels are likely to be higher for physiotherapists who perceive that their work settings offer a higher level of task autonomy. These hypotheses only consider task autonomy. Other activities indirectly related to the task of treating patients are excluded. Examples of such activities include booking treatment appointments, designing clinical programmes, or providing inservice lectures to non-physiotherapy personnel.
2. The literature indicates that after a therapist has obtained a higher formal education

level, he or she may expect to work in minimally supervised settings.

a. physiotherapists with higher formal education levels working in settings with higher clinical services autonomy levels will experience higher job satisfaction levels.

b. physiotherapists with higher formal education levels working in settings with higher treatment autonomy levels will experience higher job satisfaction levels.

c. physiotherapists with higher formal education levels working in settings with higher patient referral autonomy levels will experience higher job satisfaction levels.

These hypotheses suggest that job satisfaction levels are likely to increase for physiotherapists with higher formal education levels who perceive that their work settings offer higher task autonomy levels. It has been suggested that therapists in this group prefer fewer job controls so that individual clinical projects can be initiated. Degree programmes in physiotherapy usually require that their students complete research methodology courses. It is assumed here that degree holders have been exposed to research courses where some applications have been made to clinical physiotherapy problems.

3. The literature indicates that after a therapist has obtained more postgraduate clinical education, he or she may expect to work in minimally supervised settings.

a. physiotherapists with more postgraduate clinical education working in settings with higher clinical services autonomy levels will experience higher job satisfaction levels.

b. physiotherapists with more postgraduate clinical education working in settings with higher treatment autonomy levels will experience higher job satisfaction levels.

c. physiotherapists with more postgraduate clinical education working in settings with higher patient referral autonomy levels will experience higher job satisfaction levels.

It is suggested here that job satisfaction levels are likely to be higher for physiotherapists with greater numbers of postgraduate clinical courses who perceive that their work settings offer higher task autonomy levels. An assumption is made that the therapists in this group know more about new approaches to physiotherapy treatments when compared to other therapists with less postgraduate clinical education. Consequently, these therapists are likely to prefer minimally supervised settings where experimentation with various treatment techniques is possible.

4. The literature indicates that physiotherapists working in more junior positions in the physiotherapy job hierarchy are more likely to treat assigned patients and work in an assigned medical service.
    a. physiotherapists with lower positions in the physiotherapy job hierarchy working in settings with higher clinical services autonomy levels will experience higher levels of job satisfaction.
    b. physiotherapists with lower positions in the physiotherapy job hierarchy working in settings with higher treatment autonomy levels will experience higher levels of job satisfaction.
    c. physiotherapists with lower positions in the physiotherapy job hierarchy working in settings with higher patient referral autonomy levels will experience higher levels of job satisfaction.

    This series of hypotheses suggest that in spite of a greater number of job-related controls, job satisfaction levels are likely to be higher for therapists holding junior positions in the physiotherapy job hierarchy but perceive that their work settings offer higher task autonomy levels. It is assumed here that in high task autonomy settings, therapists in this group are less likely to be assigned to a clinical service or always receive patients assigned by physiotherapy supervisors.

5. The literature indicates that physiotherapists may exert some control over the types of patients treated and treatment techniques used by establishing direct contact with referring medical practitioners.
    a. physiotherapists with greater numbers of direct medical contacts working in settings with lower treatment autonomy levels will experience higher levels of job satisfaction.
    b. physiotherapists with greater numbers of direct medical contacts working in

settings with lower patient referral autonomy levels will experience higher levels of job satisfaction.

6. Due to a department's assigned medical service policy, a physiotherapist with established direct medical contacts may not be able to work with these physicians.
    a. physiotherapists with greater numbers of direct medical contacts working in settings with higher clinical services autonomy levels will experience higher levels of job satisfaction.

It is assumed here that direct communication with referring physicians is preferrable to no contact or very little contact. With direct contact situations, a therapist is in a better position to increase levels of control over physiotherapy treatment-related activities. Hypotheses 5-a and 5-b suggest that job satisfaction levels are likely to be higher for therapists who have established numerous direct contacts and consider these medical contacts to be potential sources of increases in treatment autonomy and patient referral autonomy levels in what are perceived to be low task autonomy work settings. Hypothesis 6-a suggests that lowered job satisfaction is likely if a number of physician contacts have been made but a therapist is assigned to clinical services where these contacts cannot be utilized. For example, therapists having established contacts with physicians who refer patients with neurological problems, might find these contacts to be of little use when assigned to a service which treats patients with other medical conditions and therefore employs a different group of physician specialists.

Six series of hypotheses have been presented in this subsection. These hypotheses are exploratory in purpose. It was emphasized in Chapter I that factors related to job satisfaction levels of paramedical personnel have not been extensively studied. None of the suggested variable relationships presented in Chapter II has been subjected to empirical testing and consequently, there is no previous research to indicate which of the variable relationships is likely to be significant.

F. Summary

In Chapter II, a research model that includes the variables to be employed in this study has been presented. These variables have been theoretically defined and from this discussion, a research problem was developed and hypotheses to be tested were outlined. Chapter III now includes operational definitions of variables contained in the research model, an outline of sampling procedures, and the first stage of the data analysis using descriptive statistics.

Bibliography

Australian Physiotherapy Association

1980 "Editorial."

Australian Journal of Physiotherapy 60:43.

Bartlett, R.C.

1977 "The 1977 Presidential Address."

Physical Therapy 57:1249-1256.

Canadian Physiotherapy Association

1974 Job Descriptions For Physiotherapists.

Toronto: Canadian Physiotherapy Association.

1976 Standards For The Home Care Physiotherapist

Toronto: Canadian Physiotherapy Association.

Carroll, B.

1973 Job Satisfaction, A Review of the Literature.

New York State School of Industrial Labor Relations, Cornell University.

Cole, J.H.

1978 "The Student Selection Process in Three Countries."

Australian Journal of Physiotherapy 24:187-193.

Edwards, J.K.

1978 "Clinical Practice and Specialization- Avenues for Career Upward Mobility in the Health Care Institution."

Physiotherapy Canada 30:230-234.

Freidson, E.

1970 "Dominant Professions, Bureaucracy, and Client Services." in Organizations and Clients: Essays in the Sociology of Service. W.R. Rosengren and M. Lefton (editors); Columbus, Ohio: Charles E. Merrill Publishing Company; pgs. 71-92.

Hall, O.

1970 The Paramedical Occupations in Ontario. Queen's Printer: Toronto.

Herzberg, F.

1966 Work and the Nature of Man. Cleveland: World Publishing Company.

Maslow, A.H.

1970 Motivation and Personality. Second edition. New York: Harper and Row.

Mercer, J.

1978 Aspects of Professionalisation in Professions Supplementary to Medicine. Unpublished Ph.D. Dissertation. London: University of London.

Mumford, E.

1970 "Job Satisfaction- A New Approach Derived From an Old Theory." Sociological Review 18:71-101.

Pawlyn, C., and R. West

1978 "Grading Criteria." Physiotherapy 64:151.

Piercy, J.M.

1977 "Physiotherapy 1978: Implications of the New Course." Physiotherapy 63:372.

Ross, C.A., L.W. Roberts, and L. Olson

1980 "The Doctor-Physiotherapist Relationship: The Physiotherapists' Perspective." Physiotherapy Canada 32:219-223.

Salancik, G.R., and J. Pfeffer

1977 "An Examination of Need-Satisfaction Models of Job Attitudes." Administrative Science Quarterly 22:427-456.

Seashore, S., and T.D. Taber

1976 "Job Satisfaction Indicators and Their Correlates." in Measuring Work Quality For Social Reporting. A.D. Biderman and T.F. Drury (editors); Beverly Hills: Sage Publications; pgs. 89-124.

Smith, P.C., L.M. Kendall, and C.L. Hulin

1969 The Measurement of Satisfaction in Work and Retirement. Chicago: Rand McNally and Company.

Soutar, M.M.

1980 "The Clegg Report." Letters. Physiotherapy 66:167.

Vroom, V.H.

1964 Work and Motivation. New York: John Wiley and Sons.

III. The Sample and Methodology

A. Introduction

The opening sections of this chapter present the operational definitions and discuss sampling procedures. Concluding sections employ descriptive statistics to describe this sample of physiotherapists in terms of demographic and occupational characteristics. Job satisfaction scores are compared for different groups of therapists as defined by variables contained in the research model presented in Chapter II.

B. Operational Definitions

Formal Education Level

In Chapters I and II, the point was made that formal education levels of physiotherapists practicing in Canada are likely to vary. Therapists have been able to receive either a diploma from universities or physiotherapy schools, or a baccalaureate degree from universities. Until quite recently, diploma programmes tended to have a stronger clinical emphasis. Students in physiotherapy schools often spent more time studying basic clinical subjects (anatomy, physiology, pathology) and treating patients when compared to students in degree programmes. As discussed previously, degree programmes usually require that their students complete research methods courses in addition to any clinical requirements whereas diploma students complete only the clinical courses (Piercy, 1977; Cole, 1978).

For the purposes of this investigation, the variable, formal education level, is defined as the type of basic physiotherapy education received by each respondent. Type of education refers to whether a first physiotherapy programme has a clinical or academic emphasis. Therefore, respondents were asked to indicate whether their basic physiotherapy qualification is a diploma from a physiotherapy school, diploma from a university, or a degree from a university. Respondents were also asked to give the number of months required to treat patients and study anatomy and physiology while students. The number of research methods courses required during a first programme was also obtained.

Postgraduate Clinical Education

In Chapter II, it was stated that ongoing postgraduate clinical education is not compulsory for physiotherapists practicing in Canada. It was further emphasized that there is little incentive to update clinical knowledge as physiotherapists with postgraduate qualifications are not usually rewarded by employers for this extra education. Consequently, postgraduate education levels are likely to vary greatly in any sample of therapists.

The variable, postgraduate clinical education, is defined in this study as any additional clinical education obtained formally since a respondent's first job as a physiotherapist. Respondents were asked therefore, to indicate the number of postgraduate clinical education courses completed since this first job as a therapist.

Position in the Physiotherapy Job Hierarchy

Job responsibilities for a basic physiotherapist's position were outlined in Chapter I. It was emphasized that these responsibilities are likely to vary with employers. However, job advertisements in Physiotherapy Canada indicate that hospital employers often classify therapists as grade 1, grade 2, or grade 3 with these classifications varying slightly between provinces. Therapists in grade 1 positions are generally employed to treat patients. Grade 2 therapists are usually expected to supervise other therapists and plan clinical programmes in addition to treating patient caseloads. A grade 3 classification generally refers to a senior supervisory position. These therapists usually do not treat patients (Pawlyn and West, 1978). Private practice employers tend not to advertise for particular grades of therapists. Their advertisements indicate a preference for therapists with clinical skills in spinal mobilization since caseloads include mainly orthopaedic conditions.

For this investigation, the variable, position in the physiotherapy job hierarchy, is defined in terms of job responsibilities other than those outlined for a basic physiotherapy position, by the Canadian Physiotherapy Association. Consequently, respondents were asked to indicate the number of therapists working directly under their supervision. The number of job requirements other than treating patients was also obtained. In addition each respondent was asked to give the classification of their current physiotherapy position (grade 1, grade 2, or staff therapist in private practice). The position of each of these classifications was determined by the number of job requirements other than treating patients.

Number of Direct Medical Contacts

In Chapter II, it was emphasized that direct therapist-physician contact is likely to be optional. For most patients, therapists can proceed with treatments without establishing contact with referring physicians. Although physician contacts might enable therapists to obtain higher task autonomy levels, in Chapter II, certain factors that are likely to discourage therapist-physician dialogue were discussed. For example, therapists may have difficulty contacting physicians who are too busy or not in their offices on a regular basis.

The variable, number of direct medical contacts, is defined in this study as physicians with whom a therapist has some type of job-related influence. Therefore, respondents were asked to indicate the following: the number of medical practitioners who regularily consult with a respondent regarding patients' treatments in a two-way exchange of medical information; the number of medical practitioners who regularily refer their patients directly to a respondent and not through a physiotherapy department or a supervisor; the number of medical practitioners with whom a respondent can influence the clinical content of a patient caseload according to individual clinical interests.

Clinical Services Autonomy

Job controls for therapists in junior positions were discussed in Chapter II. Job advertisements in Canadian physiotherapy journals indicate that clinical rotation to a different service every few months is likely to be a condition of employment for therapists in grade 1 positions and not required of those in grade 2 positions. Grade 2 therapists are usually expected to stay on one service and develop treatment skills appropriate for this service (Pawlyn and West, 1978).

For this study, the variable, clinical services autonomy, is defined as the amount of control a therapist has over the choice of clinical services in which he or she works. Therefore, respondents were asked to indicate the number of clinical service rotations required within the past 12 working months due to departmental policy. In addition, respondents were asked to give the number of services which do not interest a respondent but he or she is required to treat referred patients of these services.

Treatment Autonomy

The fact that referring physicians can determine which treatment techniques are to be used by physiotherapists has been discussed in Chapters I and II. Physicians may restrict a therapist's control over choices of physiotherapy treatments by requesting that their patients are to be treated by applications of specified treatment modalities. Physiotherapy supervisors might also request that certain physiotherapy techniques are not acceptable in their departments because they or certain physicians disapprove of them. Attitudes of referring physicians towards physiotherapists often influence amounts of control given to therapists. Some senior physicians are likely to feel threatened by paramedical specialists who might know more than they about a limited area of medicine (Mercer, 1978). Another factor that may influence a therapist's level of control over treatment choices is whether or not this individual wants more control and then demands it. For example, an inexperienced junior therapist is more likely to prefer a lower level of treatment control with physicians and supervisors providing clinical guidelines. A physiotherapist with considerable clinical experience may not be as satisfied with this same level of treatment autonomy (Mercer, 1980).

The variable, treatment autonomy, is defined in this study as the amount of control a therapist has over choices of treatment techniques to be used during patients' treatments. Consequently, respondents were asked to indicate actual and preferred frequencies with which a respondent can use patient caseloads to develop treatment programmes within any restrictions of referring physicians but without reference to an immediate supervisor's approval. In addition, respondents were asked to indicate actual and preferred frequencies with which a respondent is able to use patient caseloads to develop innovative treatment techniques within any restrictions of referring physicians but without restrictions of an immediate supervisor. In both questions, supervisory restrictions also include any restrictions that occur when supervisors enforce any treatment regulations determined by referring physicians.

Patient Referral Autonomy

Methods by which patients are referred for physiotherapy treatments may vary. Treatment requests might be direct referrals to particular therapists or indirect referrals where patients are treated by any therapist in a department or practice. As discussed in Chapter II, amounts of control that therapists have over how they receive patients often depends on whether there is direct contact between therapists and referring physicians. Physician contact is more likely to be required of therapists who prefer patient referrals in consultant relationships.

For this study, the variable, patient referral autonomy, is defined as the amount of control a therapist has over the ways in which patients are referred for physiotherapy treatments by physicians. Therefore, respondents were asked to indicate the following: actual and preferred frequencies with which patient caseloads are referred directly to a respondent by physicians in consultant relationships– there is a two-way exchange of medical information in mutual learning situations; actual and preferred frequencies with which patient caseloads are referred to a respondent through a physiotherapy supervisor with any therapist treating these patients and no therapist-physician contact occurs; actual and preferred frequencies with which patient caseloads are referred directly to a respondent by physicians in non-consultant relationships– a respondent receives referral slips only and there is no physician contact.

Job Satisfaction

The difficulties of comparing different definitions and measures of job satisfaction were discussed in Chapter II. There is no preferred job satisfaction scale. In addition to various assumptions underlying differing theoretical definitions of job satisfaction, items measured by job satisfaction scales do not remain constant. The number and type of response categories provided by an instrument may vary. For example, rank ordering or "yes-no" response formats are often used. Job satisfaction questionnaires might include open ended questions about a job environment or questions that refer to specific predetermined job characteristics. The use of a facet specific scale has an advantage in that investigators have some control over the range of job characteristics to be included in the data. Between group comparisons are then more easily made (Seashore and Taber, 1976). Such comparisons may be difficult if an open ended approach is used. Each employee might define a different set of job characteristics as sources of satisfaction or dissatisfaction. Given the variability in job satisfaction definitions and measurements, choice of a measurement scale depends mainly on practical considerations such as costs of questionnaire administration and an investigator's data analysis intentions.

For this study, the variable, job satisfaction, is defined as the feelings an employee has about a job (Smith et al., 1969). The Job Descriptive Index (JDI) is used to measure respondents' job satisfaction levels. A facet specific scale has been choosen since one of the purposes of this study is to establish whether there are differences in job satisfaction levels for various groups of physiotherapists in the sample. Also, a considerable amount of data can be collected in a relatively short period of time. Each employee is instructed to indicate whether each of the predetermined adjectives and short descriptive phrases applies to a specific facet of his or her job. Respondents reply with a "yes", "no", or "questionable" response. An employee's overall job satisfaction level plus the level of satisfaction with the work, pay, co-workers, supervision, and promotions can be obtained quickly with the presentation of five adjective lists which refer to each of these job characteristics and the use of a "yes-no" response format. Therefore, this instrument is easy to administer and in addition, attempts to establish the reliability and validity of various job referent scales demonstrate that the JDI compares favourably with other commonly used facet specific scales (Dunham et al., 1977; Aldag and Brief, 1978).

Adjective lists contain positive and negative items. "Yes" responses to negative items indicate that respondents are likely to be less satisfied with particular facets of their jobs. Higher levels of satisfaction are indicated by "yes" responses to positive items or "no" responses to negative items. For example, respondents are given a choice of answering "yes", "no", or "questionable" if presented with the adjective list that refers to promotions and are asked whether they would describe their jobs as being "dead-end". "Yes" responses to this negative item probably indicate lower satisfaction levels with this particular job characteristic. Items are also described in evaluative and objective terms. For example, respondents are asked whether they consider their actual work to be "satisfying" and "routine". Response-set effects are minimized by this mixture of positive and negative items on each of the adjective lists. Employees are less likely to automatically give the same responses to all items if both types of items are presented in a random order.

The work, supervision, and co-workers adjective lists each contain 18 items. The pay and promotions lists each contain 9 items. A weight of 3 is assigned to a "yes" response to positive items or a "no" response to negative items. Responses of "yes" to negative items or "no" to positive items probably indicate lower job satisfaction levels and therefore, are assigned weights of 0. "Questionable" responses are more likely to be an indication of dissatisfaction and are assigned weights of 1 (Smith et al., 1969). For each of the 18 item lists and 9 item lists the maximum scores are 54 and 27 respectively.

In the summary section of Chapter I, it was suggested that job satisfaction levels for physiotherapists are likely to be more accurately measured by using work satisfaction and promotion satisfaction scores. This discussion emphasized that for most groups of employees pay becomes an important component of job satisfaction scores when salary is perceived as being a compensation for other disadvantages of a job. It was also noted that satisfaction with physiotherapy co-workers and immediate supervisors are additional factors less likely to influence job satisfaction scores of practicing physiotherapists since each therapist usually works alone treating patients without required assistance from other rehabilitation personnel. Consequently, work satisfaction and promotion satisfaction scores only will be used to measure job satisfaction levels of physiotherapists interviewed for this study. In addition, by emphasizing these two sets of scores, the data analysis and accompanying discussions presented in subsequent chapters will be able to focus on the relative strength of task autonomy as a predictor of job satisfaction levels for this sample of physiotherapists in view of other stronger predictors discussed in Chapter I as being important for most employee groups such as skill utilization and variety of meaningful career options.

C. The Sample

Selection of the Sample

The sample on which this study is based has been drawn from a 1979 membership list of the Association of Chartered Physiotherapists of Alberta (A.C.P.A). There were 348 employed members on this mailing list (A.C.P.A., 1979). Supervisors of physiotherapy departments, private practice owners, and non-employed therapists were eliminated from the total sample.

This employee sample was then stratified by work setting: hospital, private practice, or Workers' Compensation Board Clinic (W.C.B.). Rural and small town work settings were eliminated from the three work setting sub-groups. A greater number of therapists work in the larger general hospitals in Edmonton and Calgary. In 1977, approximately 13% of A.C.P.A members worked in rural or small town physiotherapy departments (A.C.P.A., 1978). Responses of therapists employed in Edmonton and Calgary probably reflect work experiences of the greatest number of physiotherapists working in Alberta.

In addition to the settings eliminated above, three specific settings were also excluded where the investigator worked as a qualified physiotherapist: The University of Alberta Hospital, Strathcona Physiotherapy Limited, and Professional Building Physiotherapy Services Limited, in Edmonton. Also, the investigator did not work as a therapist immediately before, during, or immediately after data collection procedures.

The names of therapists remaining on this membership list were then randomly selected until 57 interviews were completed. Selection was done as follows: 20 therapists working in private practices, 10 from each Calgary and Edmonton; 20 therapists working in general hospitals, 10 from each city. All 17 therapists employed by the W.C.B. Clinic in Edmonton were interviewed since this is the only clinic of this type in Alberta.

Questionnaire Administration

A structured questionnaire was given by the investigator to each therapist who agreed to participate in this study. Individual interviews with each therapist were also arranged by the investigator. Interviews were conducted at the convenience of all respondents. Some therapists were interviewed in their homes while others answered the questionnaire in their work settings during lunch breaks or immediately after work hours. Data collection took place from May, 1980 to September, 1980. Therapists selected for participation were contacted directly by the investigator. Their supervisors were not included in any interview arrangements. This fact was made known to participants. In addition, each respondent was assured of anonymity. A copy of the questionnaire is included as an appendix.

D. Sample Characteristics

Demographic Characteristics

In this section, some of the findings from a descriptive statistical analysis of data collected from this study are presented. This subsection contains a summary of various frequency distributions for selected demographic variables.

As expected, this sample is predominantly female with percentages of 87.7% female and 12.3% male. The mean age is 31 years. Sample ages range from 23 to 48 years. Therapists who are 30 years and under comprise 52.6% of this sample while those who are 31 years to 35 years and 36 to 48 years comprise 24.6% and 22.8% respectively. The percent in this sample who are married is 64.9.

A greater number of these therapists have completed their first physiotherapy programmes in Canada with 66.7% of this sample having trained at Canadian universities. Therapists who have received their basic qualifications from schools in Great Britain and Ireland comprise 22.8% of this sample while those who completed physiotherapy programmes in U.S.A., Germany, New Zealand, South Africa, and Holland, comprise 10.5%. The mean for the year of graduation from a first physiotherapy programme is 1970. Most of these therapists have graduated between 1970 and 1979 with 70.2% of the sample in this group.

A greater number of these therapists completed their basic programmes between 1970 and 1975. While 49.1% of this sample received their first physiotherapy qualifications during these years, 10.5% completed their courses during 1953-1958, 19.3% during 1961-1969, and 21.1% between 1976-1979. The percentage of therapists who completed degree programmes as their basic level of physiotherapy training is 26.3%. However, 45.2% of diploma holders have obtained degrees in physiotherapy since graduation from these programmes. At the time this survey was conducted, 38.6% of the sample did not have degrees in physiotherapy.

The average time period that these therapists have worked as qualified physiotherapists is 8 years. Only 12.3% of the sample have worked 16 years or more. While most (75.4%) have been employed for 10 or less years, a greater number have practiced physiotherapy for 6 to 10 years (42.1%). Approximately one-third of this sample have been practicing for 5 years or less. The average number of times that all respondents have changed physiotherapy jobs during their careers is 4.5 with 28.0% changing jobs 1 to 3 times, 38.6% changing 4 to 6 times, and 21.1% changing employers 7 to 10 times. Dissatisfaction with physiotherapy co-workers or immediate physiotherapy supervisors are not likely to be important factors related to lower job satisfaction scores or job turnover since 71.9% of this sample are very satisfied with their physiotherapy colleagues and 68.4% indicate that they are satisfied with immediate physiotherapy supervisors.

Data summarized in this subsection indicates that a majority of therapists in this sample have 6 or more years of work experience. Most of these therapists are also 26 to 35 years of age (63.2%) and tend to change employers after approximately two years of working at the same job. Therefore, they have had time to gain clinical experience but can still change their career directions in physiotherapy or leave rehabilitation to pursue other careers. When asked about future career preferences, 59.6% of the total sample indicated that they would prefer to be able to treat patients as physiotherapists in private practices or community-based health care settings. Approximately one-third of this sample (35%) eventually want to be private practice owners. While 63.2% indicated that as physiotherapy students they expected to practice in hospital-based settings, only 3.5% now prefer hospitals or W.C.B. Clinics as future work settings. The percentage of therapists in this sample who expect to be leaving physiotherapy to pursue completely different careers sometime in the future is 21.1%.

Occupational Characteristics

Between group comparisons of mean and median work satisfaction and promotion satisfaction scores for various groups of therapists in the sample are discussed in subsequent subsections. The median test is applied to assess the significance of differences between medians since mean and median values tend to differ greatly in a majority of these distributions indicating many skewed distributions (Horowitz, 1974; Willemsen, 1974). In all cases, probability levels are found by using critical values of chi square with one degree of freedom as the data satisfies criteria for use of this test. All expected cell frequencies are greater than 5 and the sample size is greater than 20 (Seigal, 1956). Test results are presented in table form throughout this section.

Formal Education Level and Job Satisfaction Scores

In Chapter II, it was suggested that physiotherapists who trained in degree programmes might not be as satisfied with their physiotherapy jobs. These therapists are more likely to expect less job-related control and a greater number of clinical research opportunities due to their exposure to physiotherapy research methods courses. However, Table 3-1 indicates that work satisfaction scores for degree therapists are slightly higher than the same scores for diploma holders. These differences are not statistically significant. This table also shows that promotion satisfaction scores are slightly higher for degree holders when compared to the same scores for diploma therapists but again, these differences are not significant. Work satisfaction and promotion satisfaction scores are slightly lower for degree and diploma holders trained at universities when these same scores are compared for diploma therapists trained at physiotherapy schools. However, these differences are not statistically significant.

Postgraduate Clinical Education and Job Satisfaction Scores

It was proposed in Chapter II that therapists with more postgraduate clinical education may experience lower job satisfaction levels in low task autonomy work settings. These individuals are more likely to know of recent treatment developments. Lowered job satisfaction is a possibility if job-related controls restrict experimentation with new clinical techniques. The findings summarized in Table 3-2 indicate that therapists with more than 5 or 25 postgraduate clinical courses have higher work satisfaction scores when compared to therapists with less than 5 courses. These results are not statistically significant. Median work satisfaction scores for therapists with more than 10 or 25 postgraduate clinical courses are similar in value to the same scores for therapists who have attended less than 10 or 25 postgraduate clinical courses. This table also reveals that promotion satisfaction scores are lower for therapists with more postgraduate clinical courses. These results are statistically significant for those therapists who have attended more than 10 courses.

Position in the Physiotherapy Job Hierarchy and Job Satisfaction Scores

Since therapists with junior positions are more likely to experience greater numbers of job-related controls, it was suggested in Chapter II that job satisfaction levels may be lower for this group. However, Table 3-3 indicates that work satisfaction

Table 3-1

Formal Education Level and Job Satisfaction Scores

Formal Education Level	N	Means	St. Dev.	Medians	Median Test	Sig.
Work Satisfaction Scores						
Higher education level (degree)	15	34.533	11.801	38.000	.810	.500 NS
Lower education. level (diploma)	42	33.762	9.055	34.750		
University trained (diploma & degree)	41	33.146	9.926	34.250	1.99	.200 NS
Physiotherapy school trained (diploma)	16	36.063	9.234	36.000		
Promotion Satisfaction Scores						
Higher education level (degree)	15	6.200	7.063	3.250	.446	.500 NS
Lower education level (diploma)	42	5.167	5.314	3.167		
University trained (diploma and degree)	41	5.244	5.890	3.000	.610	.500 NS
Physiotherapy school trained (diploma)	16	5.938	5.627	3.500		

Table 3-2

Amount of Postgraduate Clinical Education and Job Satisfaction Scores

Postgraduate Clinical Education	N	Means	St. Dev.	Medians	Median Test	Sig.
			Work Satisfaction Scores			
Attendance at > 25 courses	14	35.286	7.829	35.500	.874	.500 NS
Attendance at < 25 courses	43	33.535	10.338	34.667		
Attendance at > 10 courses	32	34.563	9.435	34.833	.513	.500 NS
Attendance at < 10 courses	25	33.200	10.271	35.250		
Attendance at > 5 courses	45	35.022	8.978	35.375	1.39	.300 NS
Attendance at < 5 courses	12	30.000	11.801	27.500		

Promotion Satisfaction Scores

Attendance at > 25 courses	14	2.786	2.992	2.000	2.60	.200 NS
Attendance at < 25 courses	43	6.302	6.213	3.625		
Attendance at > 10 courses	32	4.781	6.278	2.250	4.13	.05 *S
Attendance at < 10 courses	25	6.280	5.062	4.333		
Attendance at > 5 courses	45	5.356	5.932	2.917	1.42	.500 NS
Attendance at < 5 courses	12	5.750	5.379	3.833		

Table 3-3

Position in the Physiotherapy Job Hierarchy and Job Satisfaction Scores

Position in Physiotherapy Job Hierarchy	N	Means	St. Dev.	Medians	Median Test	Sig.
			Work Satisfaction Scores			
Grade 1 therapists	22	32.091	10.788	34.500	1.19	.300 NS
Other grades	35	35.143	8.991	35.750		
Grade 2 therapists	20	35.300	8.240	34.500	.752	.500 NS
Other grades	37	33.243	10.505	35.333		
Staff therapists in private practice	15	34.933	10.201	39.667	1.79	.200 NS
Other grades	42	33.619	9.680	34.500		

Promotion Satisfaction Scores

Grade 1 therapists	22	5.682	6.327	3.500	.714	.500 NS
Other grades	35	5.286	5.491	3.000		
Grade 2 therapists	20	4.850	6.434	1.833	1.83	.200 NS
Other grades	37	5.757	5.454	3.625		
Staff therapists in private practice	15	5.867	4.051	4.000	.924	.500 NS
Other grades	42	5.286	6.314	2.750		

scores are slightly lower for grade 1 and grade 2 therapists and higher for staff therapists employed in private practices. However, these differences are not statistically significant. Promotion satisfaction scores are higher for grade 1 therapists and staff therapists but lower for grade 2 therapists. Again, these findings are not significant.

Number of Direct Medical Contacts and Job Satisfaction Scores

In Chapter II, it was proposed that job satisfaction levels are likely to be higher for therapists who have established numerous direct contacts with referring physicians. Through therapist-physician dialogue, a therapist may be able to obtain higher levels of task autonomy. The findings presented in Table 3-4 indicate that work satisfaction scores are lower for therapists with fewer direct medical contacts. These results are only significant for therapists who have less than two direct medical contacts. These findings are not statistically significant for therapists with no contacts or less than four contacts. The median work satisfaction score for therapists with more than four contacts is almost the same in value as the median work satisfaction score for therapists with less than four contacts. This table further indicates that promotion satisfaction scores are lower for therapists with no contacts or less than two contacts. These findings are not statistically significant. The same scores for therapists with less than four contacts are slightly higher when compared to therapists with more than four contacts but these differences are not significant.

Clinical Services Autonomy Level and Job Satisfaction Scores

Job satisfaction levels may be lower for therapists who are expected to change to different clinical services every few months. In Chapter II, it was suggested that therapists with specific clinical interests are less likely to be satisfied with their jobs if clinical rotations interfere with any development of these interests. A therapist may be interested in practicing a specific treatment technique but an assigned medical service might be unable to make use of these skills. Findings in Table 3-5 indicate that work satisfaction and promotion satisfaction scores are lower for therapists who have spent unspecified and specified amounts of time on non-preferred services but these differences are not significant. The median promotion satisfaction score for therapists who have spent more than six months on non-preferred services is almost the same as the median value for therapists spending less than six months on non-preferred services.

Table 3-4

Number of Direct Medical Contacts and Job Satisfaction Scores

Number of Direct Medical Contacts	N	Means	St. Dev.	Medians	Median Test	Sig.
Work Satisfaction Scores						
Do not have any contacts	10	32.900	6.402	33.500	2.53	.200 NS
Have contacts	47	34.192	10.358	35.750		
< 2 contacts	28	31.786	9.106	33.833	3.90	.05 *S
> 2 contacts	29	36.069	10.032	39.625		
< 4 contacts	33	33.424	10.889	35.333	.727	.500 NS
> 4 contacts	24	34.708	8.078	34.500		
Promotion Satisfaction Scores						
Do not have any contacts	10	2.700	3.368	1.300	3.62	.100 NS
Have contacts	47	6.021	6.034	3.600		
< 2 contacts	28	3.714	4.577	2.000	2.60	.200 NS
> 2 contacts	29	7.103	6.377	4.250		
< 4 contacts	33	5.546	6.000	3.286	.438	.700 NS
> 4 contacts	24	5.292	5.575	2.500		

Table 3-5

Clinical Services Autonomy and Job Satisfaction Scores

Time Spent On Non-Preferred Services	N	Means	St. Dev.	Medians	Median Test	Sig.
			Work Satisfaction Scores			
Did spend time on non-preferred services	16	31.875	9.507	34.833	.747	.500 NS
Did not spend time on non-preferred services	41	34.781	9.830	35.250		
Therapists spending < 6 months on non-preferred services	48	34.625	9.631	35.167	.765	.500 NS
Therapists spending > 6 months on non-preferred services	9	30.444	10.163	34.750		

Promotion Satisfaction Scores

Did spend time on non-preferred services	16	3.938	5.446	2.750	2.27	.200 NS
Did not spend time on non-preferred services	41	6.024	5.859	3.667		
Therapists spending < 6 months on non-preferred services	48	5.500	5.691	3.100	.446	.700 NS
Therapists spending > 6 months on non-preferred services	9	5.111	6.566	3.333		

Results summarized in Table 3-6 indicate that although promotion satisfaction scores are higher for therapists who have rotated to different services when compared to the non-rotation and fewer rotation groups, these differences are not statistically significant. Median work satisfaction scores for therapists who were required to rotate and those who were not required to rotate are similar in value.

Treatment Autonomy Level and Job Satisfaction Scores

It was suggested in Chapter II that job satisfaction levels are likely to be lower for therapists who are unable to choose which physiotherapy treatment techniques to use when treating patients. Results presented in Table 3-7 indicate that work satisfaction scores are slightly higher for therapists who experience treatment choice restrictions. This result is statistically significant. Although promotion satisfaction scores are slightly higher for therapists who experience treatment choice restrictions, this finding is not statistically significant.

Findings summarized in Table 3-7 indicate that work satisfaction scores for therapists who can experiment with treatments at all times or frequently are higher when compared to therapists who experience experimentation restrictions. However, these differences are not significant. Although promotion satisfaction scores for therapists who can experiment at all times or frequently are slightly higher than the same scores for therapists who experience restrictions, this finding is not statistically significant.

Patient Referral Autonomy and Job Satisfaction Scores

Levels of control that therapists have over ways in which patients are referred by physicians for physiotherapy treatments may be increased through direct contact with physicians. The difficulties of establishing therapist-physician contact were discussed in Chapter II. It was suggested that without this contact, therapists are more likely to receive increased numbers of indirect referrals. Job satisfaction levels may be lower for therapists who receive patients mainly through indirect referrals. A therapist's individual clinical skills and treatment preferences might not be recognized by referring physicians if patients arrive to be treated by any therapist in a department or practice with no physician contact expected during physiotherapy sessions. Findings summarized in Table 3-8 indicate that work satisfaction and promotion satisfaction scores are higher for therapists who experience indirect referral less often when compared to the same

Table 3-6

Clinical Services Rotations and Job Satisfaction Scores

Number of Clinical Rotations Required	N	Means	St. Dev.	Medians	Median Test	Sig.
			Work Satisfaction Scores			
Did rotate	21	31.762	12.066	35.000	.540	.500 NS
Did not rotate	36	35.250	8.008	35.100		
> 3 rotations required	12	32.833	13.402	35.000	.534	.500 NS
< 3 rotations required	45	34.267	8.690	35.000		
			Promotion Satisfaction Scores			
Did rotate	21	6.667	6.468	4.250	2.21	.200 NS
Did not rotate	36	4.722	5.295	2.833		
> 3 rotations required	12	7.833	7.872	3.500	.556	.500 NS
< 3 rotations required	45	4.800	4.998	3.143		

Table 3-7

Treatment Autonomy Level and Job Satisfaction Scores

Frequency Therapist Can Choose Treatment Techniques	N	Means	St. Dev.	Medians	Median Test	Sig.
			Work Satisfaction Scores			
Can choose at all times	47	33.553	9.973	34.333	4.55	.05 *S
Can choose frequently, occasionally	10	35.900	8.800	39.833		
Can experiment occasionally or almost never	11	30.727	12.067	31.000	.888	.500 NS
Can experiment always or frequently	46	34.739	9.091	35.250		

Promotion Satisfaction Scores

Can choose at all times	47	5.553	6.121	3.083	.532	.500 NS
Can choose frequently,occasionally	10	4.900	3.957	3.500		
Can experiment occasionally or almost never	11	5.546	3.333	5.538	.438	.700 NS
Can experiment always or frequently	46	5.413	3.100	5.890		

Table 3-8

Patient Referral Autonomy Level and Job Satisfaction Scores

Frequency Patient Caseload is Referred Indirectly	N	Means	St. Dev.	Medians	Median Test	Sig.
Work Satisfaction Scores						
Caseload referred indirectly occasionally or almost never	12	37.333	9.847	36.500	1.39	.300 NS
Caseload referred indirectly always or frequently	45	33.067	9.628	34.625		
Promotion Satisfaction Scores						
Caseload referred indirectly occasionally or almost never	12	5.000	3.668	4.500	1.42	.300 NS
Caseload referred indirectly always or frequently	45	5.556	6.247	3.063		

Blank page inserted

scores for therapists who experience indirect referral more often. However, these differences are not statistically significant.

Results summarized in Table 3-9 indicate that work satisfaction scores are lower for therapists who rarely experience direct referrals in consultant relationships when compared to the same scores for therapists who experience this type of referral more often. These differences are not statistically significant. Promotion satisfaction scores are also lower for the low consultant relationship group but again, this finding is not significant. Results summarized in Table 3-10 indicate that work satisfaction and promotion satisfaction scores are higher for therapists who have patients referred directly to them with no physician contact when compared to the same scores for therapists who experience this type of referral less often. However, these differences are not statistically significant.

Selected Variables and Job Satisfaction Scores

This sample includes physiotherapists employed in three different work settings. A summary of selected frequency distributions presented earlier in this chapter indicated that a majority of respondents prefer private practices or more community-based health care centres as future work settings. A small minority expect to be working in hospitals or W.C.B. Clinics. However, findings summarized in Table 3-11 indicate that promotion satisfaction scores are slightly higher for therapists employed by hospitals and the Workers' Compensation Board but slightly lower for practitioners working in private practices when all promotion scores are compared to the other two work setting groups. Median work satisfaction scores for therapists working in hospitals, the W.C.B. Clinic, and private practices are similar in value. This table also indicates that differences in work satisfaction and promotion satisfaction scores for each of the work setting groups are not statistically significant.

In Chapters I and II, increased development of clinical research in physiotherapy was discussed as being important for future expansion of career opportunities in clinical physiotherapy as well as innovations in treatment techniques. It was also noted that although the physiotherapy literature emphasizes this need for more clinical research, not all therapists have been exposed to research methods courses either at an undergraduate level or since graduation from their first physiotherapy programmes. In addition, it was

Table 3-9

Consultant Relationships and Job Satisfaction Scores

Referrals in Consultant Relationships	N	Means	St. Dev.	Medians	Median Test	Sig.
			Work Satisfaction Scores			
Referrals in consultant relationships always or frequently	12	36.667	9.755	36.500	1.39	.300 NS
Referrals in consultant relationships occasionally or almost never	45	33.244	9.724	34.625		
			Promotion Satisfaction Scores			
Referrals in consultant relationships always or frequently	12	7.083	6.317	7.000	3.13	.100 NS
Referrals in consultant relationships occasionally or almost never	45	5.000	5.617	2.857		

Table 3-10

Direct Referrals in Non-Consultant Relationships and Job Satisfaction Scores

Frequency Direct Referrals With No Physician Contact	N	Means	St. Dev.	Medians	Median Test	Sig.
Work Satisfaction Scores						
Direct referrals no physician contact almost never	43	33.488	10.354	34.875	.539	.500 NS
Direct referrals no physician contact frequently or occasionally	14	35.429	7.723	35.500		
Promotion Satisfaction Scores						
Direct referrals no physician contact almost never	43	4.977	5.298	2.857	3.03	.100 NS
Direct referrals no physician contact frequently or occasionally	14	6.857	7.080	4.167		

Table 3-11

Work Setting and Job Satisfaction Scores

Work Setting	N	Means	St. Dev.	Medians	Median Test	Sig.
Work Satisfaction Scores						
Therapists working in hospitals	20	32.950	11.583	35.500	.560	.500 NS
Therapists working in practices or W.C.B.	37	34.514	8.720	34.875		
Therapists working in practices	20	35.300	8.240	34.500	.752	.500 NS
Therapists working in hospitals or W.C.B.	37	33.243	10.505	35.333		
Therapists working at W.C.B.	17	33.588	9.421	35.250	.544	.500 NS
Therapists working in hospitals or W.C.B.	40	34.125	9.993	34.833		

Promotion Satisfaction Scores

Therapists working in hospitals	20	7.150	6.393	4.000	1.52	.300 NS
Therapists working in practices or W.C.B.	37	4.514	5.274	2.375		
Therapists working in practices	20	4.850	6.434	1.833	1.83	.200 NS
Therapists working in hospitals or W.C.B.	37	5.757	5.454	3.625		
Therapists working at W.C.B.	17	4.118	3.621	3.250	.458	.500 NS
Therapists working in hospitals or practices	40	6.000	6.437	3.167		

suggested that therapists who do have a physiotherapy research background are less likely to be satisfied with their jobs due to a lack of research opportunities available in most physiotherapy work settings. Results summarized in Table 3-12 indicate that a minority of therapists in this sample have research backgrounds obtained while physiotherapy students. This table also indicates that work satisfaction scores for therapists with undergraduate research backgrounds are slightly higher when compared to the same scores for therapists with no undergraduate research course requirements. However, these differences are not statistically significant. Promotion satisfaction scores for therapists with undergraduate research backgrounds are lower but again, these results are not significant. Although work satisfaction and promotion satisfaction scores are lower for therapists who have completed more than two research courses as undergraduates when compared with therapists who have completed no or less than two courses, these differences are not statistically significant.

Differences in the education backgrounds of physiotherapists practicing in Canada were discussed in Chapters I and II. Whether therapists have graduated from programmes with a clinical or academic emphasis does not appear to influence job satisfaction scores of therapists in this sample. Results presented in Table 3-13 indicate that work satisfaction scores for therapists who were required to treat patients for more than 28 months as students are higher than the same scores for therapists who did not spend this amount of time as students in clinical practice. However, these differences are not statistically significant. While promotion satisfaction scores are higher for therapists who spent more time in clinical practice as students when compared with those who spent less time, this difference in median values is not statistically significant. The table also indicates that work satisfaction scores for therapists who spent more time studying clinical subjects (anatomy and physiology) are higher when compared with therapists who spent less time studying these subjects. However, this difference is not significant. Promotion satisfaction scores are higher for therapists who have spent more time studying anatomy and physiology as students but these results too are not significant.

In addition to restricted task autonomy, limited career opportunities in physiotherapy was discussed in Chapter I as being a factor likely to influence job

Table 3-12

Research Course Requirements of First Physiotherapy Programme and Job Satisfaction Scores

Research Course Requirements	N	Means	St. Dev.	Medians	Median Test	Sig.
			Work Satisfaction Scores			
No research courses required	47	33.660	9.335	34.875	.562	.500 NS
Research courses required	10	35.400	11.946	36.000		
> 2 research courses required	6	36.500	12.613	32.000	.490	.500 NS
< 2 research courses required	51	33.667	9.465	35.000		
			Promotion Satisfaction Scores			
No research courses required	47	5.447	5.547	3.286	.592	.500 NS
Research courses required	10	5.400	7.090	1.500		
> 2 research courses required	6	7.167	8.681	1.500	.492	.500 NS
< 2 research courses required	51	5.235	5.424	3.188		

Table 3-13

Clinical Emphasis of First Physiotherapy Programme and Job Satisfaction Scores

Number of Months Required to Treat Patients	N	Means	St. Dev.	Medians	Median Test	Sig.
			Work Satisfaction Scores			
> 28 months required to treat patients	14	35.429	9.733	36.000	1.30	.300 NS
< 28 months required to treat patients	43	33.488	9.816	34.625		
> 12 months required physiology	23	35.348	9.237	36.250	1.68	.200 NS
< 12 months required physiology	34	33.029	10.101	34.500		
> 12 months required anatomy	22	36.909	8.901	36.500	2.35	.200 NS
< 12 months required anatomy	35	32.114	9.917	34.000		

Promotion Satisfaction Scores

> 28 months required to treat patients	14	5.286	3.625	3.500	.582	.500 NS
< 28 months required to treat patients	43	5.488	6.356	2.875		
> 12 months required physiology	23	5.565	5.238	3.750	1.10	.300 NS
< 12 months required physiology	34	5.353	6.188	2.900		
> 12 months required anatomy	22	6.227	5.656	3.500	.714	.500 NS
< 12 months required anatomy	35	4.943	5.876	2.667		

satisfaction levels of practicing physiotherapists. Results summarized in Table 3-14 indicate that *work satisfaction and promotion satisfaction scores are lower for therapists who consider their current jobs to be dead-end when compared to the same scores for therapists who think that their current jobs will or may offer opportunities. These differences are statistically significant. Work satisfaction and promotion satisfaction scores are higher for therapists who think that their current jobs will offer opportunities when compared to the same scores for therapists who think that their current jobs may offer opportunities or is dead-end. These differences are also significant.* Results presented in Table 3-15 indicate that *work satisfaction and promotion satisfaction scores are higher for therapists who have decided to make physiotherapy their sole career when compared to the same scores for therapists who are undecided or have decided not to make physiotherapy their sole career. These differences are again, statistically significant.*

The changes in physiotherapy programmes offered at Canadian universities were outlined in Chapters I and II. Recent graduates are likely to have completed programmes that have an increased academic emphasis. Results summarized in Table 3-16 indicate that the *year of graduation* from a first physiotherapy programme does not appear to significantly influence job satisfaction levels. Although work satisfaction scores for therapists who have graduated after 1965 and 1970 are lower, this result is not statistically significant. While promotion satisfaction scores are slightly higher for therapists who have graduated before 1965 and 1970, these findings are also not significant.

E. Summary

Opening sections of this chapter outlined the operational definitions and sampling procedures used in this investigation. Subsequent subsections summarized findings from the frequency distributions and an application of two measures of central tendency for key variables. Selected frequency distributions indicated that a majority of therapists in this sample graduated from their first physiotherapy programmes between 1970 and 1979 (70.2%). Most of them have 6 or more years of work experience as qualified physiotherapists (65.9%). However, only a very small percentage of the total sample

Table 3-14

Perceptions of Immediate Job Opportunities and Job Satisfaction Scores

Immediate Job Opportunities	N	Means	St. Dev.	Medians	Median Test	Sig.
			Work Satisfaction Scores			
Those who think present job is dead-end	38	30.368	9.113	31.000	11.8	.001 *S
Those who think present job will or may offer opportunities	19	41.158	6.543	41.000		
Those who think present job will offer opportunities	12	43.000	6.105	42.500	11.1	.001 *S
Those who think present job may offer opportunities or dead-end	45	31.556	9.129	33.667		

Promotion Satisfaction Scores

Those who think present job is dead-end	38	3.026	4.083	2.000	22.4	.001 *S
Those who think present job will or may offer opportunities	19	10.263	5.714	9.083		
Those who think present job will offer opportunities	12	11.750	6.454	9.500	13.3	.001 *S
Those who think present job may offer opportunities or dead-end	45	3.756	4.275	2.563		

Table 3-15

Intention to Make Physiotherapy a Sole Career and Job Satisfaction Scores

Intention to Make Physiotherapy Sole Career	N	Means	St. Dev.	Medians	Median Test	Sig.
Work Satisfaction Scores						
Make physiotherapy sole career	31	38.613	7.214	39.875	10.6	.010 *S
Undecided or will not make physiotherapy sole career	26	28.423	9.567	27.833		
Promotion Satisfaction Scores						
Make physiotherapy sole career	31	6.161	5.797	4.125	4.65	.050 *S
Undecided or will not make physiotherapy sole career	26	4.577	5.742	2.500		

Table 3-16

Year of Graduation From a First Physiotherapy Programme and Job Satisfaction Scores

Year of Graduation	N	Means	St. Dev.	Medians	Median Test	Sig.
			Work Satisfaction Scores			
Before 1965	10	33.600	12.554	36.000	.562	.500 NS
After 1965	47	34.043	9.205	34.875		
After 1970	36	33.972	9.802	34.500	1.12	.300 NS
Before 1970	21	33.952	9.887	35.750		
			Promotion Satisfaction Scores			
Before 1965	10	6.000	6.236	3.500	.532	.500 NS
After 1965	47	5.319	5.737	3.000		
After 1970	36	5.250	6.096	2.833	.492	.500 NS
Before 1970	21	5.762	5.309	3.400		

expect to be working in hospitals or W.C.B. Clinics as preferred future work settings (3.5%). Greater numbers indicated a preference for private practices or more community-based health care settings (59.6%). In addition, comparisons of the differences between means and medians for key variables indicate that for this sample, variables dealing with career opportunities appear to have more of an impact on work satisfaction and promotion satisfaction scores.

Discussions in Chapters I and II suggest that therapists with higher formal education levels, more postgraduate clinical education, or an undergraduate research background, are likely to experience lower job satisfaction levels given various job controls that are usually present in physiotherapy work settings. However, findings summarized in this chapter reveal the following. Promotion satisfaction scores are significantly lower for therapists who have attended greater numbers of postgraduate clinical courses. Although work satisfaction scores are higher for this group, these findings are not significant. While work satisfaction and promotion satisfaction scores are slightly higher for therapists with degrees, these results are not statistically significant. No significant differences are found when work satisfaction and promotion satisfaction scores are compared for therapists who have and who have not completed undergraduate research courses. This result is not suprising when a majority of the sample do not support clinical physiotherapy research with 84.2% indicating that a graduate degree should not be the basic level of physiotherapy education. Of the reasons given for this preference, 42.1% indicated that they view higher levels of education as being inappropriate for a practical occupation such as physiotherapy. Graduate education is considered by 31.6% to be wasted effort when physiotherapists are usually employed as technicians.

The hypotheses presented in Chapter II propose that job satisfaction levels are likely to be higher for therapists who have established greater numbers of direct physician contacts. While 73% of the therapists in this sample prefer indirect referral on an infrequent basis, 79% have patients sent to them indirectly with no physician contact most of the time. One third of the sample have one or no direct medical contacts. Findings summarized in this chapter reveal that work satisfaction scores are significantly lower for therapists with fewer direct physician contacts. However, work satisfaction and promotion satisfaction scores are not significantly lower for therapists who experience higher frequencies of indirect referrals.

It was proposed in Chapter II that restricted clinical services autonomy or treatment autonomy may result in lower job satisfaction levels. Work satisfaction and promotion satisfaction scores are not significantly lower for therapists who were required to complete an increased number of clinical service rotations. Some therapists prefer to be assigned to different clinical services. Rotation provides a change of medical co-workers and new clinical caseloads. At the W.C.B. Clinic, 80% of therapists who rotated prefer rotation for these reasons while in hospital departments, this same figure is 40%. However, of all the therapists in this sample who worked at the W.C.B. Clinic, 53% indicated that rotation is undesireable since changes in clinical services interfere with clinical specialization. This same figure for the hospital sub-sample is 85%.

Work satisfaction scores are significantly higher for therapists who experience some treatment choice restrictions. These therapists are not always able to choose physiotherapy treatment techniques when treating patients. Of the therapists in this sample who do experience treatment choice restrictions, 20% indicate that these restrictions are preferred. They consider their clinical knowledge to be insufficient at this point in their careers.

A lack of physiotherapy career alternatives was suggested in Chapter I as a factor contributing to lowered job satisfaction levels for practicing physiotherapists. In this sample, 56% are not satisfied with general career opportunities offered in clinical physiotherapy. Results summarized in this chapter indicate that work satisfaction and promotion satisfaction scores are significantly lower for therapists who feel that their current jobs do not offer any promotion opportunities. Work satisfaction and promotion satisfaction scores are also significantly lower for therapists who are undecided or have decided not to make physiotherapy their sole career.

In the next chapter, correlation analysis is used to test hypotheses developed from the research model discussed in Chapter II. In addition, relationships between work setting, the task autonomy variables, and job satisfaction scores are considered. Since data summarized in this chapter indicate that most of the therapists in this sample eventually do not want to work in either organizational setting (96.5%), an attempt is made to establish whether significant variations in the suggested task autonomy-job satisfaction relationships occur in these different work settings. Relationships between the variables dealing with career opportunities and job satisfaction scores are also compared between work settings.

Bibliography

Aldag, R.J., and A.P. Brief

1978 "Examination of Alternative Models of Job Satisfaction." Human Relations 31:91-98.

Association of Chartered Physiotherapists of Alberta

1978 Newsletter
Edmonton: Association of Chartered Physiotherapists of Alberta.

1979 Mailing List
Edmonton: Association of Chartered Physiotherapists of Alberta.

Cole, J.H.

1978 "The Student Selection Process in Three Countries." Australian Journal of Physiotherapy 24:187-193.

Dunham, R.B., F.J. Smith, and R.S. Blackburn

1977 "Validation of the Index of Organizational Reactions With the JDI, the MSQ, and Faces Scales." Academy of Management Journal 20:420-432.

Horowitz, L.M.

1974 Elements of Statistics For Psychology and Education.
New York: McGraw-Hill Incorporated.

Mercer, J.

1978 Aspects of Professionalisation in Professions Supplementary to Medicine.
Unpublished Ph.D. Dissertation. London: University of London.

1980 "Physiotherapy as a Profession."

Physiotherapy 66:180-184.

Pawlyn, C., and R. West

1978 "Grading Criteria."

Physiotherapy 64:151.

Piercy, J.M.

1977 "Physiotherapy 1978: Implications of the New Course."

Physiotherapy 63:372.

Seashore, S., and T.D. Taber

1976 "Job Satisfaction Indicators and Their Correlates." in

Measuring Work Quality For Social Reporting.

A.D. Biderman and T.F. Drury (editors); Beverly Hills: Sage Publications;

pgs. 89-124.

Siegel, S.

1956 Nonparametric Statistics for the Behavioral Sciences.

New York: McGraw-Hill.

Smith, P.C., L.M. Kendall, and C.L. Hulin

1969 The Measurement of Satisfaction in Work and Retirement.

Chicago: Rand McNally and Company.

Willemsen, E.W.

1974 Understanding Statistical Reasoning.

San Francisco: W.H. Freeman and Company.

IV. Testing The Hypotheses

A. Introduction

The purpose of this chapter is to employ correlation analysis so that the relative strengths of variable relationships suggested by the research model presented in Chapter II can be examined. Statistical support for each hypothesis developed from this model is thereby assessed. An examination of relationships between the variable, work setting, the task autonomy variables, and job satisfaction scores is also included in this analysis. In addition, any affects of the variable, work setting, on the variables dealing with perceived career opportunities and work satisfaction scores or promotion satisfaction scores are examined. The rationale for these inclusions was discussed in the previous chapter.

B. Summary of the Correlations

Although a major aim of Chapter IV is to assess whether there is statistical support for any of the hypotheses presented in Chapter II, emphasis is also given to the general shapes of variable relationships undergoing analysis. Consequently, while Pearson's correlation coefficient is used to measure relative strengths and directions of the more linear variable relationships (Willemsen, 1974; Babbie, 1975) in this chapter, the degree of linearity found in these relationships between variable pairs is determined by comparing eta (correlation ratio) and Pearson r values (Kohout, 1974; Kimble, 1978). These values are summarized in table form throughout Chapter IV with accompanying discussions emphasizing general shapes of relationships (linear or curvilinear) and whether they have a positive or negative direction. Variables are discussed in the same order as they appear in each hypothesis outlined in Chapter II. Reference is made to these hypotheses in subsequent subsections.

Clinical Services Autonomy and Job Satisfaction Scores

Findings presented in Table 4-1 indicate that relationships between clinical services autonomy levels and work satisfaction and promotion satisfaction scores are not significant. Eta values are greater than Pearson r values suggesting curvilinear relationships. However, small differences between these values for work satisfaction and promotion satisfaction scores indicate that the proportion of variance due to curvilinear

Table 4-1

Crosstabulation of Clinical Services Autonomy and Job Satisfaction Scores

Independent Variable	Dependent Variable	N	Eta	Pearson r.	Sig.
Clinical Services Autonomy	Work Satisfaction Scores	57	.151	.122	.18 NS
Number of Months Spent on Non-Preferred Services	Promotion Satisfaction Scores	57	.231	.095	.24 NS

regression is probably small for both sets of job satisfaction scores. Pearson r values, therefore, are more likely to be appropriate indicators of the relative strengths of these more linear independent-dependent variable relationships. Positive Pearson r values indicate that these very weak curvilinear relationships are in the expected direction. Work satisfaction and promotion satisfaction scores increase slightly in weak curvilinear relationships as the number of months spent on non-preferred services decreases. This table also indicates that none of these curvilinear relationships is statistically significant. There appears to be little statistical support for hypothesis 1-a which states that job satisfaction levels will be higher for physiotherapists working in settings with high clinical services autonomy.

Treatment Autonomy and Job Satisfaction Scores

Data summarized in Table 4-2 indicate both weak positive and negative curvilinear relationships. Pearson r values are more likely to be appropriate indicators of the relative strengths of these more linear relationships between the variables, treatment autonomy and work satisfaction and promotion satisfaction scores, since results demonstrate small differences between eta and Pearson r values. Work satisfaction scores increase slightly as frequencies with which therapists can choose treatment techniques decrease. The direction of this relationship is unexpected. Promotion satisfaction scores increase slightly in a weak curvilinear relationship as frequencies with which therapists can choose treatment techniques increase. None of these r values is statistically significant.

Results presented in this table also indicate that work satisfaction scores increase slightly in a weak curvilinear relationship as frequencies with which therapists can experiment with treatment techniques increase. Promotion satisfaction scores tend to decrease slightly in a weak curvilinear relationship as frequencies with which therapists can experiment with treatment techniques increase. None of these curvilinear relationships is statistically significant. These findings provide little statistical support for hypothesis 1-b which states that job satisfaction levels will be higher for physiotherapists working in settings with high treatment autonomy.

Patient Referral Autonomy and Job Satisfaction Scores

Findings presented in Table 4-3 indicate positive curvilinear relationships. With small differences between eta and Pearson r values, the proportion of variance due to

Table 4-2

Crosstabulation of Treatment Autonomy Level and Job Satisfaction Scores

Independent Variable	Dependent Variable	N	Eta	Pearson r	Sig.
Treatment Autonomy	Work Satisfaction Scores	57	.134	-.126	.18 NS
Frequency With Which Therapist Can Choose Treatment Techniques	Promotion Satisfaction Scores	57	.189	.014	.46 NS
Frequency With Which Therapist Can Experiment With Treatment Techniques	Work Satisfaction Scores	57	.232	.162	.11 NS
	Promotion Satisfaction Scores	57	.165	-.049	.36 NS

Table 4-3

Crosstabulation of Patient Referral Autonomy Level and Job Satisfaction Scores

Independent Variable	Dependent Variable	N	Eta	Pearson r	Sig.
Patient Referral Autonomy	Work Satisfaction Scores	57	.354	.225	.05 *S
Frequency With Which Patient Caseload is Referred Indirectly by Physicians	Promotion Satisfaction Scores	57	.245	.120	.19 NS

curvilinear regression is probably small. Therefore, for these more linear relationships between the variables, patient referral autonomy, and work satisfaction and promotion satisfaction scores, Pearson's r is more likely to be an appropriate indicator of their relative strengths. As the frequency of indirect referrals decreases, work satisfaction scores demonstrate small increases in a weak curvilinear relationship. This relationship is statistically significant. A similar pattern is indicated for the relationship between patient referral autonomy levels and promotion satisfaction scores. However, this r value is not significant. These results provide weak statistical support for hypothesis 1-c which states that job satisfaction levels will be higher for physiotherapists working in settings with high patient referral autonomy.

Clinical Services Autonomy, Formal Education Level and Job Satisfaction Scores

Data summarized in Table 4-4 indicate that relationships found between formal education levels and work satisfaction and promotion satisfaction scores when controlling for clinical services autonomy levels are curvilinear. Since small differences are found between eta and Pearson r values for all four variable relationships, the proportion of variance due to curvilinear regression for each of these relationships is not likely to be large. Consequently, Pearson r values are probably appropriate indicators of the relative strengths of these more linear relationships. For therapists working in low clinical services autonomy settings, work satisfaction and promotion satisfaction scores increase slightly in weak curvilinear relationships with decreases in formal education levels. Although the more linear relationships between these variables and promotion satisfaction scores are stronger, none of these r values are statistically significant. Similar patterns are found when relationships between formal education levels and work satisfaction scores are examined for those in the sample who work in high clinical services autonomy settings. Promotion satisfaction scores for high clinical services autonomy situations decrease slightly in a weak curvilinear relationship with decreases in formal education levels. The r value for this relationship is not significant. There appears to be little statistical support for hypothesis 2-a which states that physiotherapists with higher formal education levels working in settings with high clinical services autonomy will experience higher job satisfaction levels.

Table 4-4

Crosstabulation of Formal Education Level and Job Satisfaction Scores Controlling For Clinical Services Autonomy

Control Variable	N	Independent Variable	Dependent Variable	Eta	Pearson r	Sig.
Clinical Services Autonomy Level		Formal Education Level				
(Low) Did Spend Time On Non-Preferred Services	16		Work Satisfaction Scores	.310	.047	.43 NS
			Promotion Satisfaction Scores	.310	.308	.12 NS
(High) Did Not Spend Time On Non-Preferred Clinical Services	41		Work Satisfaction Scores	.320	.065	.34 NS
			Promotion Satisfaction Scores	.181	-.078	.31 NS

Treatment Autonomy, Formal Education Level and Job Satisfaction Scores

Data presented in Table 4-5 indicate that relationships between independent and dependent variables are curvilinear. With small differences found between eta and Pearson r values for each of these relationships dealing with promotion satisfaction scores and work satisfaction scores in the high treatment autonomy level situation, Pearson's r is more likely to be an appropriate measure of their relative strengths. However, a large difference (.651) is found between these same values for the relationship between formal education level and work satisfaction scores in the low treatment autonomy situation. In this case, curvilinear regression rather than linear regression might explain a greater proportion of the variance. Eta may be a more appropriate measure of the strength of this more curvilinear relationship. Although a strong curvilinear relationship is indicated here, this eta value may also be inflated due to a small subsample size of 10 respondents (Kohout, 1974).

For therapists working in high treatment autonomy settings, work satisfaction and promotion satisfaction scores increase with decreases in formal education levels. None of these results are statistically significant. A similar pattern is found when examining the relationship between formal education level and work satisfaction scores for therapists working in low treatment autonomy settings. This result is not significant although a strong curvilinear relationship is indicated.

Directions of the curvilinear relationships found between formal education level and promotion satisfaction scores are unexpected. Promotion satisfaction scores are higher for degree holders working in low treatment autonomy situations. Although this more linear relationship is moderately strong, the r value only approaches significance. These results provide little statistical support for hypothesis 2-b which states that physiotherapists with higher formal education levels working in settings with high treatment autonomy will experience higher job satisfaction levels.

Patient Referral Autonomy, Formal Education Level and Job Satisfaction Scores

Findings summarized in Table 4-6 indicate that all variable relationships are curvilinear. All differences between eta and Pearson r values are small. Therefore, the proportion of variance due to curvilinear regression is also likely to be small and Pearson's r is probably a more appropriate measure of the strength of these more linear

Table 4-5

Crosstabulation of Formal Education Level and Job Satisfaction Scores Controlling for Treatment Autonomy

Control Variable	N	Independent Variable	Dependent Variable	Eta	Pearson r	Sig.
Treatment Autonomy Level		Formal Education Level				
(High) Can Choose Treatment Techniques At All Times	47		Work Satisfaction Scores	.056	.053	.36 NS
			Promotion Satisfaction Scores	.153	.143	.17 NS
(Low) Cannot Choose Treatment Techniques At All Times	10		Work Satisfaction Scores	.670	.019	.48 NS
			Promotion Satisfaction Scores	.599	-.535	.06 NS

Table 4-6

Crosstabulation of Formal Education Level and Job Satisfaction Scores Controlling For Patient Referral Autonomy

Control Variable	N	Independent Variable	Dependent Variable	Eta	Pearson r	Sig.
Patient Referral Autonomy Level		Formal Education Level				
(Low) Caseload Is Referred Indirectly With No Physician Contact At All Times	45		Work Satisfaction Scores	.178	.099	.26 NS
			Promotion Satisfaction Scores	.094	-.089	.28 NS
(High) Caseload Is Not Referred Indirectly With No Physician Contact At All Times	12		Work Satisfaction Scores	.117	-.115	.36 NS
			Promotion Satisfaction Scores	.685	.670	.01 *S

relationships. For therapists working in low patient referral settings, work satisfaction scores are slightly lower for degree holders. These scores increase very slightly in a weak curvilinear relationship as formal education levels decrease. This result is not significant. Promotion satisfaction scores are slightly higher for degree holders and decrease slightly with decreases in formal education levels. This r value is not statistically significant.

For therapists working in high patient referral autonomy settings, work satisfaction scores are slightly higher for degree holders but decrease slightly in a weak curvilinear relationship with decreases in formal education levels. This r value is not significant. Promotion satisfaction scores are lower for degree holders and increase in a moderately strong more linear relationship with decreases in formal education levels. This r value is statistically significant. However, the expected relationship is that job satisfaction scores are likely to be higher for degree holders working in high patient referral autonomy settings. Therefore, results presented in this table provide little statistical support for hypothesis 2-c which states that physiotherapists with higher formal education levels working in settings with high patient referral autonomy will experience higher job satisfaction levels.

Clinical Services Autonomy, Amount of Postgraduate Clinical Education and Job Satisfaction Scores

Data summarized in Table 4-7 indicate that relationships found between all independent and dependent variables are curvilinear. Two moderately large differences between eta and Pearson r values are found for the relationships between the independent variable, amount of postgraduate clinical education, and work satisfaction scores in low and high clinical services autonomy situations (.492 and .470 respectively). A moderate difference between eta and Pearson r values is found for the same independent variable and promotion satisfaction scores in low clinical services autonomy situations (.381). Although moderately strong and moderate curvilinear relationships are indicated in these cases, with a small subsample size of 16 respondents in low clinical services autonomy situations, these eta values might be inflated. However, eta may still be a more appropriate indicator of the strengths of these three more curvilinear relationships. Pearson's r is probably an appropriate measure of the strength of a more

Table 4-7

Crosstabulation of Amount of Postgraduate Clinical Education and Job Satisfaction Scores Controlling For Clinical Services Autonomy

Control Variable	N	Independent Variable	Dependent Variable	Eta	Pearson r	Sig.
Clinical Services Autonomy Level		Amount of Postgraduate Clinical Education				
(Low) Did Spend Time On Non-Preferred Clinical Services	16		Work Satisfaction Scores	.664	.172	.26 NS
			Promotion Satisfaction Scores	.437	.056	.42 NS
(High) Did Not Spend Time On Non-Preferred Clinical Services	41		Work Satisfaction Scores	.553	.083	.30 NS
			Promotion Satisfaction Scores	.551	.336	.02 *S

linear relationship between the independent variable and promotion satisfaction scores in high clinical services autonomy situations since a small difference is found between eta and Pearson r values in this case. For therapists who are required to work on non-preferred clinical services, work satisfaction and promotion satisfaction scores increase slightly in moderate more curvilinear relationships as numbers of postgraduate clinical courses decrease. This suggests that therapists with more postgraduate clinical education have slightly lower job satisfaction scores in low clinical services autonomy settings. However, the r values are not significant.

Work satisfaction and promotion satisfaction scores are also lower for therapists with more postgraduate clinical education working in high clinical services autonomy settings. Work satisfaction scores increase slightly with decreases in amounts of postgraduate clinical education. This result is not statistically significant. There is a moderate more linear increase in promotion satisfaction scores with decreases in amounts of postgraduate clinical education. This result is significant. However, the expected result is that job satisfaction scores will be higher for therapists with more postgraduate clinical education if they work in high clinical services autonomy situations. Therefore, findings summarized in this table do not provide statistical support for hypothesis 3-a which states that physiotherapists with more postgraduate clinical education working in settings with high clinical services autonomy will experience higher job satisfaction levels.

Treatment Autonomy, Amount of Postgraduate Clinical Education and Job Satisfaction Scores

Data presented in Table 4-8 indicate that all relationships between independent and dependent variables are curvilinear. In low treatment autonomy situations, a large difference is found between eta and Pearson r values for the independent variable, amount of postgraduate clinical education, and work satisfaction scores (.568) and a moderate difference is found between these same values for the same independent variable and promotion satisfaction scores (.377). Although moderately strong and moderate curvilinear relationships are indicated in these cases, eta values may be inflated due to a small subsample size of 10 respondents. In high treatment autonomy situations, a moderately large difference is found between eta and Pearson r values for the

Table 4-8

Crosstabulation of Amount of Postgraduate Clinical Education and Job Satisfaction Scores Controlling For Treatment Autonomy

Control Variable	N	Independent Variable	Dependent Variable	Eta	Pearson r	Sig.
Treatment Autonomy		Amount of Postgraduate Clinical Education				
(High) Can Choose Treatment Techniques At All Times	47		Work Satisfaction Scores	.529	.082	.29 NS
			Promotion Satisfaction Scores	.418	.206	.08 NS
(Low) Cannot Choose Treatment Techniques At All Times	10		Work Satisfaction Scores	.937	.369	.15 NS
			Promotion Satisfaction Scores	.929	.552	.05 *S

independent variable and work satisfaction scores (.447) while a small difference is found between these same values for the independent variable and promotion satisfaction scores. Consequently, it is suggested that eta may be an appropriate measure of the strength of the former more moderate curvilinear relationship and Pearsons r more appropriate as the same measure for this latter weak but more linear relationship. For therapists working in high treatment autonomy settings, work satisfaction and promotion satisfaction scores increase slightly in moderate and weak curvilinear relationships respectively as amounts of postgraduate clinical education decrease. Therapists with greater numbers of postgraduate clinical courses demonstrate slightly lower job satisfaction scores in high treatment autonomy settings. The r value for work satisfaction scores is not statistically significant but this value for promotion satisfaction scores approaches significance.

Work satisfaction scores and promotion satisfaction scores are also lower for therapists with more postgraduate clinical education working in low treatment autonomy settings. A moderately strong curvilinear increase in work satisfaction scores is demonstrated with decreases in amounts of postgraduate clinical education. However, this r value is not statistically significant. A moderate more curvilinear increase in promotion satisfaction scores occurs with decreases in amounts of postgraduate clinical education. This r value is statistically significant. Although promotion satisfaction scores are significantly lower for therapists with more postgraduate clinical education working in low treatment autonomy settings, these same scores are not higher for this group of therapists who work in high treatment autonomy situations. The direction of each of these job satisfaction relationships is the same whether therapists work in high or low treatment autonomy settings. Therefore, there appears to be little statistical support for hypothesis 3-b which states that physiotherapists with more postgraduate clinical education working in settings with high treatment autonomy will experience higher job satisfaction levels.

Patient Referral Autonomy, Amount of Postgraduate Clinical Education and Job Satisfaction Scores

Data summarized in Table 4-9 indicate that moderate and small differences are found between eta and Pearson r values for the independent variable, amount of

Table 4-9

Crosstabulation of Amount of Postgraduate Clinical Education and Job Satisfaction Scores Controlling For Patient Referral Autonomy

Control Variable	N	Independent Variable	Dependent Variable	Eta	Pearson r	Sig.
Patient Referral Autonomy Level		Amount of Postgraduate Clinical Education				
(Low) Caseload Is Referred Indirectly With No Physician Contact At All Times	45		Work Satisfaction Scores	.413	-.097	.26 NS
			Promotion Satisfaction Scores	.489	.268	.04 *S
(High) Caseload Is Not Referred Indirectly With No Physician Contact At All Times	12		Work Satisfaction Scores	.506	.401	.10 NS
			Promotion Satisfaction Scores	.561	.052	.44 NS

postgraduate clinical education, and the dependent variables, work satisfaction scores (.316), and promotion satisfaction scores, in low patient referral autonomy situations. Therefore, in the latter case where the relationship appears to be more linear, Pearson's r is probably an appropriate measure of the strength of this relationship. In the former case where a moderate difference is reported, eta might be an appropriate indicator of the stength of this more curvilinear relationship. A small difference and a large difference (.509) is found between eta and Pearson r values for the independent variable and work satisfaction and promotion satisfaction scores in high patient referral autonomy situations. Pearson's r is more likely to be an appropriate measure of the strength of the former more linear relationship while eta may be more appropriate as the same measure for the latter more curvilinear relationship. However, this eta value might also be inflated due to a small subsample size (N=10). For therapists working in low patient referral autonomy situations, work satisfaction scores demonstrate a moderate more curvilinear decrease as amounts of postgraduate clinical education decrease. Although work satisfaction scores are slightly higher for therapists with more postgraduate clinical education working in low patient referral autonomy situations, this r value is not significant. A slight increase in promotion satisfaction scores occurs in a weak cuvilinear relationship as amounts of postgraduate clinical education decrease. This indicates that therapists with more postgraduate clinical education demonstrate slightly lower promotion satisfaction scores in low patient referral autonomy situations. This r value is statistically significant.

For therapists working in high patient referral autonomy settings, a moderate more linear decrease in work satisfaction scores occurs as amounts of postgraduate clinical education decrease. This finding suggests that work satisfaction scores are higher for therapists with greater numbers of postgraduate clinical courses and who work in high patient referral autonomy settings. However, the r value only approaches significance. Promotion satisfaction scores demonstrate a moderately strong curvilinear increase as amounts of postgraduate clinical education decrease. Although this finding suggests that promotion satisfaction scores are slightly lower for this group of therapists, the r value is not statistically significant. Results presented in this table provide little statistical support for hypothesis 3-c which states that physiotherapists with more postgraduate clinical education working in settings with high patient referral autonomy will experience higher job satisfaction levels.

Clinical Services Autonomy, Position in the Physiotherapy Job Hierarchy and Job Satisfaction Scores

Weak curvilinear relationships are demonstrated in all variable relationships summarized in Table 4-10 . Small differences are found between eta and Pearson r values for all variable relationships. Pearson's r is more likely to be an appropriate indicator of the relative strengths of these four more linear relationships. For therapists working in low clinical services autonomy settings, promotion satisfaction scores decrease slightly in a weak curvilinear relationship as positions in the physiotherapy job hierarchy increase. These results suggest that promotion satisfaction scores are slightly higher for grade 1 therapists working in low clinical services autonomy settings. This r value is not significant. Work satisfaction scores increase very slightly in a weak curvilinear relationship as positions in the physiotherapy job hierarchy increase. This suggests that work satisfaction scores are slightly lower for grade 1 therapists working in low clinical services autonomy settings. However, the r value is not significant. Similar patterns are found when work satisfaction and promotion satisfaction scores are compared in high clinical services autonomy situations. Promotion satisfaction scores are slightly higher for grade 1 therapists and decrease slightly in a curvilinear relationship as positions in the physiotherapy job hierarchy increase. Work satisfaction scores are slightly lower for grade 1 therapists and increase slightly in a curvilinear relationship as positions in the physiotherapy job hierarchy increase. None of these r values are significant. Results presented in this table provide little statistical support for hypothesis 4-a which states that physiotherapists with lower positions in the physiotherapy job hierarchy working in settings with high clinical services autonomy will experience higher levels of job satisfaction.

Treatment Autonomy, Position in the Physiotherapy Job Hierarchy and Job Satisfaction Scores

Results presented in Table 4-11 indicate that small differences are found between eta and Pearson r values for the independent variable, position in the physiotherapy job hierarchy, and both sets of job satisfaction scores in high treatment

Table 4-10

Crosstabulation of Position in the Physiotherapy Job Hierarchy and Job Satisfaction Scores Controlling For Clinical Services Autonomy

Control Variable	N	Independent Variable	Dependent Variable	Eta	Pearson r	Sig.
Clinical Services Autonomy Level		Position In Physiotherapy Job Hierarchy				
(Low) Did Spend Time On Non-Preferred Clinical Services	16		Work Satisfaction Scores	.088	.087	.37 NS
			Promotion Satisfaction Scores	.189	-.038	.44 NS
(High) Did Not Spend Time On Non-Preferred Clinical Services	41		Work Satisfaction Scores	.230	.185	.12 NS
			Promotion Satisfaction Scores	.160	-.128	.21 NS

Table 4-11

Crosstabulation of Position in the Physiotherapy Job Hierarchy and Job Satisfaction Scores Controlling For Treatment Autonomy

Control Variable	N	Independent Variable	Dependent Variable	Eta	Pearson r	Sig.
Treatment Autonomy Level		Position In Physiotherapy Job Hierarchy				
(High) Can Choose Treatment Techniques At All Times	47		Work Satisfaction Scores	.224	.216	.07 NS
			Promotion Satisfaction Scores	.047	-.016	.46 NS
(Low) Cannot Choose Treatment Techniques At All Times	10		Work Satisfaction Scores	.305	.197	.29 NS
			Promotion Satisfaction Scores	.688	-.221	.27 NS

autonomy situations and the same independent variable and work satisfaction scores in low treatment autonomy situations. In these three cases, more linear relationships appear to be indicated and therefore, Pearsons r is more likely to be an appropriate measure of the strengths of these relationships. A moderately large difference is found between eta and Pearson r values for the independent variable and promotion satisfaction scores in low treatment autonomy situations (.467). Although a moderately strong more curvilinear relationship is indicated in this case, the eta value may also be inflated due to a small subsample size of 10 respondents. For therapists who work in high treatment autonomy settings, work satisfaction scores demonstrate slight increases in a weak curvilinear relationship as positions in the physiotherapy job hierarchy increase. This finding suggests that work satisfaction scores are slightly lower for grade 1 therapists working in high treatment autonomy settings. This r value approaches significance. Promotion satisfaction scores decrease very slightly in a weak curvilinear relationship as positions in the physiotherapy job hierarchy increase. This suggests that promotion satisfaction scores are slightly higher for grade 1 therapists working in high treatment autonomy situations. The r value is not significant.

For therapists working in low treatment autonomy settings, work satisfaction scores increase slightly in a weak curvilinear relationship and promotion satisfaction scores decrease in a moderately strong more curvilinear relationship as positions in the physiotherapy job hierarchy increase. These results suggest that work satisfaction scores are slightly lower and promotion satisfaction scores are slightly higher for grade 1 therapists working in low treatment autonomy settings. These r values are not significant. Findings presented in this table provide little statistical support for hypothesis 4-b which states that physiotherapists with lower positions in the physiotherapy job hierarchy working in settings with high treatment autonomy will experience higher levels of job satisfaction.

Patient Referral Autonomy, Position in the Physiotherapy Job Hierarchy and Job Satisfaction Scores

Findings summarized in Table 4-12 indicate that small differences between eta and Pearson r values are found for all variable relationships. Therefore, Pearson's r is probably an appropriate measure of their relative strengths. For therapists working in low

Table 4-12

Crosstabulation of Position in the Physiotherapy Job Hierarchy and Job Satisfaction Scores Controlling For Patient Referral Autonomy

Control Variable	N	Independent Variable	Dependent Variable	Eta	Pearson r	Sig.
Patient Referral Autonomy Level		Position In Physiotherapy Job Hierarchy				
(Low) Caseload Is Referred Indirectly With No Physician Contact At All Times	45		Work Satisfaction Scores	.141	.136	.19 NS
			Promotion Satisfaction Scores	.194	-.146	.17 NS
(High) Caseload Is Not Referred Indirectly With No Physician Contact At All Times	12		Work Satisfaction Scores	.589	.439	.08 NS
			Promotion Satisfaction Scores	.535	.534	.04 *S

patient referral autonomy settings, promotion satisfaction scores decrease slightly in a weak curvilinear relationship as positions in the physiotherapy job hierarchy increase. This suggests that promotion satisfaction scores are slightly higher for grade 1 therapists working in low patient referral autonomy settings. The direction of this relationship is unexpected but the r value is not statistically significant. Work satisfaction scores increase slightly in a weak curvilinear relationship as positions in the physiotherapy job hierarchy increase. This suggests that work satisfaction scores are slightly lower for grade 1 therapists working in low patient referral autonomy situations. The r value again, is not statistically significant.

For therapists working in high patient referral autonomy settings, promotion satisfaction scores demonstrate a moderately strong more linear increase as positions in the physiotherapy job hierarchy increase. This suggests that promotion satisfaction scores are lower for grade 1 therapists working in high patient referral autonomy situations. The direction of this relationship is unexpected but the r value is statistically significant. Work satisfaction scores demonstrate a moderate more linear increase as positions in the physiotherapy job hierarchy increase. This suggests that work satisfaction scores are lower for grade 1 therapists working in high patient referral autonomy settings. The direction of this relationship is unexpected with the r value approaching significance. Findings summarized in this table provide little statistical support for hypothesis 4-c which states that physiotherapists with lower positions in the physiotherapy job hierarchy working in settings with high patient referral autonomy will experience higher job satisfaction levels.

Treatment Autonomy, Number of Direct Medical Contacts and Job Satisfaction Scores

Findings summarized in Table 4-13 indicate that with relatively small differences between eta and Pearson r values for all variable relationships, the proportion of variance due to curvilinear regression in each case is more likely to be small. Consequently, Pearson's r is probably an appropriate indicator of the relative strengths of these four relationships. For therapists who work in high treatment autonomy settings, work satisfaction scores increase very slightly in weak curvilinear relationships as numbers of direct medical contacts increase. This result suggests that work satisfaction scores are

Table 4-13

Crosstabulation of Number of Direct Medical Contacts and Job Satisfaction Scores Controlling For Treatment Autonomy

Control Variable	N	Independent Variable	Dependent Variable	Eta	Pearson r	Sig.
Treatment Autonomy Level		Number Of Direct Medical Contacts				
(High) Can Choose Treatment Techniques At All Times	47		Work Satisfaction Scores	.373	.079	.30 NS
			Promotion Satisfaction Scores	.371	.235	.06 NS
(Low) Cannot Choose Treatment Techniques At All Times	10		Work Satisfaction Scores	.393	.301	.20 NS
			Promotion Satisfaction Scores	.617	.439	.10 NS

slightly higher for therapists who have some direct medical contacts and work in high treatment autonomy settings. However, this r value is not significant. Promotion satisfaction scores also increase slightly in a weak curvilinear relationship as numbers of direct medical contacts increase. This suggests that these scores are slightly higher for therapists with some direct medical contacts. The r value only approaches significance.

For therapists who work in low treatment autonomy settings, work satisfaction and promotion satisfaction scores demonstrate moderate increases in more linear relationships as numbers of direct medical contacts increase. These findings suggest that work satisfaction and promotion satisfaction scores are higher for therapists with some direct medical contacts and who also work in low treatment autonomy settings. However, the r value for promotion satisfaction scores only approaches significance. The r value for work satisfaction scores is not significant. Findings presented in this table provide little statistical support for hypothesis 5-a which states that physiotherapists with greater numbers of direct medical contacts working in settings with low treatment autonomy will experience higher job satisfaction levels.

Patient Referral Autonomy, Number of Direct Medical Contacts and Job Satisfaction Scores

Data summarized in Table 4-14 indicate that relatively small differences are found between eta and Pearson r values for the independent variable, number of direct medical contacts, and both sets of job satisfaction scores in low patient referral autonomy situations and the same independent variable and work satisfaction scores in high patient referral autonomy situations. In these three cases, more linear relationships are indicated and therefore, Pearson's r is probably an appropriate measure of the strengths of these relationships. A large difference between eta and Pearson r values (.655) is found for the independent variable and promotion satisfaction scores in high patient referral autonomy situations. Although a strong curvilinear relationship is indicated, this eta value may also be inflated due to a small subsample size (N=12). For therapists who work in low patient referral autonomy settings, work satisfaction scores increase very slightly in a weak curvilinear relationship with increases in the numbers of direct medical contacts. The r value is not significant. Promotion satisfaction scores demonstrate a slight increase in a weak curvilinear relationship as numbers of direct medical contacts increase. This finding

Table 4-14

Crosstabulation of Number of Direct Medical Contacts and Job Satisfaction Scores Controlling For Patient Referral Autonomy

Control Variable	N	Independent Variable	Dependent Variable	Eta	Pearson r	Sig.
Patient Referral Autonomy Level		Number Of Direct Medical Contacts				
(Low) Caseload Is Referred Indirectly With No Physician Contact At All Times	45		Work Satisfaction Scores	.403	.128	.20 NS
			Promotion Satisfaction Scores	.439	.300	.02 *S
(High) Caseload Is Not Referred Indirectly With No Physician Contact At All Times	12		Work Satisfaction Scores	.271	.098	.38 NS
			Promotion Satisfaction Scores	.737	.082	.40 NS

suggests that promotion satisfaction scores are slightly higher for therapists with some direct medical contacts but work in low patient referral autonomy settings. This r value is statistically significant.

For therapists who work in high patient referral autonomy settings, work satisfaction scores increase slightly in a weak curvilinear relationship while promotion satisfaction scores increase in a stronger more curvilinear relationship with increases in numbers of direct medical contacts. This suggests that work satisfaction and promotion satisfaction scores are slightly higher for therapists with some medical contacts. These r values, however, are not significant. Findings presented in this table provide limited statistical support for hypothesis 5-b which states that physiotherapists with greater numbers of direct medical contacts working in settings with low patient referral autonomy will experience higher job satisfaction levels.

Clinical Services Autonomy, Number of Direct Medical Contacts and Job Satisfaction Scores

Data summarized in Table 4-15 indicate that small differences between eta and Pearson r values are found for the independent variable, number of direct medical contacts, and work satisfaction scores in low clinical services autonomy situations and this same independent variable and promotion satisfaction scores in high clinical services autonomy situations. In both cases, Pearson's r is more likely to be an appropriate indicator of the strengths of these relationships. Moderately large and moderate differences are found between eta and Pearson r values for the independent variable and promotion satisfaction scores in low clinical services autonomy situations (.450) and this same variable and work satisfaction scores in high clinical services autonomy situations (.355). Eta may be an appropriate measure of the strengths of these two more curvilinear relationships. However, for the relationship between the independent variable and promotion satisfaction scores in low clinical services autonomy situations, the eta value may be inflated due to a small subsample size (N=16). For therapists working in low clinical services autonomy settings, work satisfaction scores decrease slightly in a weak curvilinear relationship and promotion satisfaction scores decrease in a moderately strong more curvilinear relationship as numbers of direct medical contacts increase. These r values are not statistically significant.

Table 4-15

Crosstabulation of Number of Direct Medical Contacts and Job Satisfaction Scores Controlling For Clinical Services Autonomy

Control Variable	N	Independent Variable	Dependent Variable	Eta	Pearson r	Sig.
Clinical Services Autonomy Level		Number Of Direct Medical Contacts				
(Low) Did Spend Time On Non-Preferred Clinical Services	16		Work Satisfaction Scores	.303	-.038	.44 NS
			Promotion Satisfaction Scores	.486	-.036	.45 NS
(High) Did Not Spend Time On Non-Preferred Services	41		Work Satisfaction Scores	.513	.158	.16 NS
			Promotion Satisfaction Scores	.569	.342	.01 *S

For therapists who work in high clinical services autonomy settings, work satisfaction scores demonstrate slight increases in a moderate curvilinear relationship with the increases in numbers of direct medical contacts. This indicates that these scores are slightly higher for therapists with some medical contacts. However, the r value is not statistically significant. Promotion satisfaction scores demonstrate a moderate increase in a more linear relationship with increases in numbers of direct medical contacts. This suggests that promotion satisfaction scores are slightly higher for therapists with some medical contacts and who work in high clinical services autonomy settings. The r value is statistically significant. Findings presented in this table provide weak statistical support for hypothesis 6-a which states that physiotherapists with greater numbers of direct medical contacts working in settings with high clinical services autonomy will experience higher job satisfaction levels.

Work Setting, Clinical Services Autonomy and Job Satisfaction Scores

Different work settings do not appear to significantly influence relationships between clinical services autonomy levels and job satisfaction scores. Findings summarized in Table 4-16 indicate weak curvilinear relationships. Small differences between eta and Pearson r values are found for all independent-dependent variable relationships. Therefore, the proportion of variance due to curvilinear regression is likely to be small and Pearson's r is probably an appropriate measure of the strengths of these four relationships. For therapists working in hospitals or at the W.C.B. Clinic, work satisfaction and promotion satisfaction scores increase slightly as levels of clinical services autonomy increase. None of these r values are statistically significant. Similar patterns are found when these same scores are compared for therapists who work in private practices.

Work Setting, Treatment Autonomy and Job Satisfaction Scores

Data presented in Table 4-17 indicate that different work settings do not significantly influence the relationship between treatment autonomy levels and job satisfaction scores. Small differences between eta and Pearson r values are found for all variable relationships. Therefore, Pearson's r is more likely to be an appropriate measure of the strengths of these four more linear relationships. For therapists who work in hospitals or at the W.C.B. Clinic, work satisfaction and promotion satisfaction scores

Table 4-16

Crosstabulation of Clinical Services Autonomy Level and Job Satisfaction Scores Controlling For Work Setting

Control Variable	N	Independent Variable	Dependent Variable	Eta	Pearson r	Sig.
Work Setting		Clinical Services Autonomy				
Hospital Or W.C.B.	37		Work Satisfaction Scores	.175	.128	.22 NS
			Promotion Satisfaction Scores	.350	.204	.11 NS
Private Practice	20		Work Satisfaction Scores	.064	.057	.40 NS
			Promotion Satisfaction Scores	.174	.014	.48 NS

Table 4-17

Crosstabulation of Treatment Autonomy Level and Job Satisfaction Scores Controlling For Work Setting

Control Variable	N	Independent Variable	Dependent Variable	Eta	Pearson r	Sig.
Work Setting		Treatment Autonomy				
Hospital Or W.C.B.	37		Work Satisfaction Scores	.185	-.184	.14 NS
			Promotion Satisfaction Scores	.166	-.149	.19 NS
Private Practice	20		Work Satisfaction Scores	.252	-.057	.41 NS
			Promotion Satisfaction Scores	.248	.219	.18 NS

decrease slightly in weak curvilinear relationships as treatment autonomy levels increase. These r values are not statistically significant. For therapists working in private practices, work satisfaction scores decrease very slightly in a weak curvilinear relationship as levels of treatment autonomy increase. Promotion satisfaction scores demonstrate a slight increase in a weak curvilinear relationship as levels of treatment autonomy increase. However, these r values are not statistically significant.

Work Setting, Patient Referral Autonomy and Job Satisfaction Scores

Findings summarized in Table 4-18 indicate that small differences between eta and Pearson r values are found for all variable relationships. Pearson's r is more likely to be an appropriate measure of the strengths of these four more linear relationships. For therapists who work in hospitals or at the W.C.B. Clinic, work satisfaction scores increase slightly in a moderate more linear relationship as levels of patient referral autonomy increase. This r value approaches significance. Promotion satisfaction scores increase in a moderately strong more linear relationship as levels of patient referral autonomy increase. This r value is statistically significant. This suggests that in hospital or W.C.B. Clinic settings, promotion satisfaction scores are lower for therapists who experience lower levels of patient referral autonomy.

For therapists working in private practice settings, promotion satisfaction scores demonstrate decreases in a weak curvilinear relationship as levels of patient referral autonomy increase. This r value is not statistically significant. Work satisfaction scores demonstrate an increase in a weak curvilinear relationship as patient referral autonomy levels increase. This value too is not significant.

Work Setting, Promotion Opportunities in Present Job and Job Satisfaction Scores

Data summarized in Table 4-19 indicate that the two variables which consider physiotherapy career opportunities significantly influence relationships between independent and dependent variables. Since small differences between eta and Pearson r values are found for all variable relationships, Pearson's r is more likely to be an appropriate indicator of the strengths of these four more linear relationships. As levels of dissatisfaction with immediate job opportunities decrease, work satisfaction and promotion satisfaction scores increase in moderately strong more linear relationships. These r values are significant. This suggests that work satisfaction and promotion

Table 4-18

Crosstabulation of Patient Referral Autonomy Level and Job Satisfaction Scores Controlling For Work Setting

Control Variable	N	Independent Variable	Dependent Variable	Eta	Pearson r	Sig.
Work Setting		Patient Referral Autonomy				
Hospital Or W.C.B.	37		Work Satisfaction Scores	.545	.310	.09 NS
			Promotion Satisfaction Scores	.473	.453	.02 *S
Private Practice	20		Work Satisfaction Scores	.238	.186	.14 NS
			Promotion Satisfaction Scores	.343	-.044	.40 NS

Table 4-19

Career-Related Variables and Job Satisfaction Scores

Independent Variable	N	Dependent Variable	Eta	Pearson r	Sig.
Promotion Opportunities In Present Job	57	Work Satisfaction Scores	.535	.532	.000 *S
		Promotion Satisfaction Scores	.648	.636	.000 *S
Intention To Make Physiotherapy A Sole Career	57	Work Satisfaction Scores	.546	.534	.000 *S
		Promotion Satisfaction Scores	.207	.193	.08 NS

satisfaction scores are lower for therapists who perceive that their current jobs offer no promotion opportunities.

Work satisfaction scores increase in a moderately strong more linear relationship as levels of dissatisfaction with physiotherapy as a sole career decrease. This r value is statistically significant. This suggests that work satisfaction scores are lower for therapists who have decided not to make physiotherapy their sole career. Promotion satisfaction scores demonstrate a slight increase in a weak curvilinear relationship as levels of dissatisfaction with physiotherapy as a sole career decrease. This r value only approaches significance.

Data presented in Table 4-20 indicate that there are strong statistically significant relationships between levels of dissatisfaction with immediate job opportunities and all job satisfaction scores. With small differences between eta and Pearson r values found for all variable relationships, the proportion of variance due to curvilinear regression is likely to be small. Therefore, Pearson's r is probably an appropriate indicator of the strengths of these four more linear relationships. For therapists who work in hospital or W.C.B. settings, work satisfaction and promotion satisfaction scores increase in moderately strong more linear relationships as levels of dissatisfaction with immediate job opportunities decrease. All r values are statistically significant. These results suggest that work satisfaction and promotion satisfaction scores are lower for therapists working in hospital or W.C.B. settings and perceive that there are no promotion opportunities in their current jobs.

For therapists working in private practice settings, work satisfaction scores demonstrate moderate increases in a more linear relationship as levels of dissatisfaction with immediate job opportunities decrease. The r value is significant. Promotion satisfaction scores increase in a strong more linear relationship as levels of dissatisfaction with immediate job opportunities decrease. This r value is also significant. The data suggest that for therapists working in private practice settings, work satisfaction scores are slightly lower for those who perceive that their current job offers no promotion opportunities. Promotion satisfaction scores are much lower for this particular group of therapists.

Table 4-20

Promotion Opportunities in Present Job and Job Satisfaction Scores Controlling For Work Setting

Control Variable	N	Independent Variable	Dependent Variable	Eta	Pearson r	Sig.
Work Setting		Promotion Opportunities In Present Job				
Hospital Or W.C.B.	37		Work Satisfaction Scores	.604	.603	.000 *S
			Promotion Satisfaction Scores	.589	.588	.000 *S
Private Practice	20		Work Satisfaction Scores	.424	.389	.040 *S
			Promotion Satisfaction Scores	.818	.751	.000 *S

Work Setting, Intention to Make Physiotherapy a Sole Career and Job Satisfaction Scores

Findings summarized in Table 4-21 indicate that there are significant differences in relationships between physiotherapy career intentions and job satisfaction scores for therapists working in the two different types of work settings. Small differences between eta and Pearson r values are found for all variable relationships. Therefore, Pearson's r is more likely to be an appropriate measure of the strengths of these four more linear relationships. For therapists working in the organizational settings, work satisfaction scores increase in a moderately strong more linear relationship as levels of dissatisfaction with physiotherapy as a sole career decrease. Since this r value is statistically significant, this data suggests that for therapists working in hospital or W.C.B. settings, work satisfaction scores are slightly lower for those who do not intend to make physiotherapy their sole career. Promotion satisfaction scores however, increase very slightly in a weak curvilinear relationship as levels of dissatisfaction with physiotherapy as a sole career decrease. This r value is not statistically significant.

For therapists working in private practice settings, the relationships between the variable, intention to make physiotherapy a sole career, and all job satisfaction scores are statistically significant. Promotion satisfaction scores demonstrate increases in a moderate more linear relationship with a decrease in the levels of dissatisfaction with physiotherapy as a sole career. Work satisfaction scores increase in a moderately strong more linear relationship as levels of dissatisfaction with physiotherapy as a sole career decrease. These findings suggest that for therapists working in private practice settings, promotion satisfaction scores are moderately lower for those who do not intend to make physiotherapy their sole career. Work satisfaction scores are much lower for this particular group of therapists.

C. Summary

Data summarized in Chapter III indicated that there are a greater number of statistically significant relationships between the variables dealing with physiotherapy career opportunities and the dependent variables, work satisfaction and promotion satisfaction scores. Results of the correlation analysis presented in Chapter IV also

Table 4-21

Crosstabulation of Intention to Make Physiotherapy A Sole Career and Job Satisfaction Scores Controlling For Work Setting

Control Variable	N	Independent Variable	Dependent Variable	Eta	Pearson r	Sig.
Work Setting		Intention To Make Physiotherapy A Sole Career				
Hospital Or W.C.B.	37		Work Satisfaction Scores	.716	.644	.001 *S
			Promotion Satisfaction Scores	.120	.063	.36 NS
Private Practice	20		Work Satisfaction Scores	.716	.644	.001 *S
			Promotion Satisfaction Scores	.395	.375	.050 *S

indicate that a greater number of significant relationships are found between these independent and dependent variables. Variables dealing with physician contact were also found to have an impact on job satisfaction scores. However, the data offers little statistical support for hypotheses outlined in Chapter II. In addition, strong differences in task autonomy-job satisfaction relationships are not found when these relationships are tested for each of the three work settings.

Results summarized in Chapter IV present several weak and moderate but statistically significant curvilinear relationships between the variables considering numbers and frequency of physician contacts and the dependent variable, promotion satisfaction scores. These scores are slightly higher for therapists with some direct medical contacts and who work in low patient referral autonomy settings. This finding provides weak statistical support for hypothesis 5-b which states that physiotherapists with greater numbers of direct medical contacts working in settings with low patient referral autonomy will experience higher job satisfaction levels. Other significant relationships of this type include the following: for degree holders working in high patient referral autonomy settings, promotion satisfaction scores are slightly lower; therapists with more postgraduate clinical education working in low patient referral autonomy settings have slightly lower promotion satisfaction scores; promotion satisfaction scores are lower for grade 1 therapists working in high patient referral autonomy settings; in hospital or W.C.B. settings, promotion satisfaction scores are lower for therapists experiencing lower levels of patient referral autonomy.

Promotion satisfaction scores are slightly higher for therapists with some direct medical contacts who work in high clinical services autonomy settings. This result provides limited statistical support for hypothesis 6-a which states that physiotherapists with greater numbers of direct medical contacts working in settings with high clinical services autonomy will experience higher job satisfaction levels.

Statistical support for suggested task autonomy-job satisfaction relationships appears to be weak. Contradictory findings are also indicated. Lower promotion satisfaction scores are found for two groups of therapists (degree holders and grade 1 therapists) who work in high patient referral autonomy settings while these same scores are lower for private practice employees and therapists with higher postgraduate clinical education levels who are employed in low patient referral autonomy settings. In Chapter II, hypotheses developed to test these specific task autonomy relationships suggest that job satisfaction scores are likely to be higher for all groups of therapists employed in settings offering higher patient referral autonomy levels.

In Chapter IV, stronger statistical relationships are found consistently between variables dealing with career opportunities and the different job satisfaction scores. Work satisfaction and promotion satisfaction scores are lower for therapists working in hospital or W.C.B. settings who perceive that their current jobs offer no promotion opportunities. In private practice settings, while work satisfaction scores are slightly lower for therapists who perceive that their current jobs offer no promotion opportunities, promotion satisfaction scores are much lower for this group.

Work satisfaction scores are lower for therapists who are dissatisfied with long-term career opportunities offered in physiotherapy and have decided not to make physiotherapy their sole career. For therapists working in hospital or W.C.B. settings, work satisfaction scores are slightly lower for those who do not intend to make physiotherapy their sole career. While promotion satisfaction scores are slightly lower for therapists working in private practices who do not intend to make physiotherapy their sole career, work satisfaction scores are much lower for these therapists.

Lower promotion satisfaction and work satisfaction scores for respondents employed in private practice settings may be due in part to a greater number of these therapists wanting to eventually become private practice owners. Of all the therapists in this sample who indicate this preference (35.1%), 50% are employed in private practices. It was noted in Chapter II that private practices usually do not employ therapists to fill grade 1 or 2 positions. Becoming an owner is likely to be the only type of promotion available to these practitioners.

A significant relationship that is not related to physician contact and promotion satisfaction scores or career opportunities and job satisfaction scores was also presented in this chapter. Work satisfaction scores are slightly lower for therapists in this sample who receive greater numbers of patients through indirect referrals. This finding provides weak statistical support for hypothesis 1-c which states that job satisfaction levels will be higher for physiotherapists working in settings with high patient referral autonomy.

The major purpose of this study is to determine whether task autonomy is a main factor contributing to lowered job satisfaction levels of clinical physiotherapists. Hypotheses designed to test suggested task autonomy relationships were not strongly supported by statistical evidence presented in Chapter IV. Three hypotheses did receive weak statistical support (1-c, 5-b, and 6-a) and they consider relationships between some aspect of physician contact and job satisfaction scores. These relationships may be weak due to the relative unimportance of task autonomy as a predictor of job satisfaction levels for this sample. More of the significant relationships that consider correlations between variables dealing with physician contact and job satisfaction scores are significant only when promotion satisfaction scores are compared. These correlations tend not to be statistically significant when relationships between the physician contact variables and work satisfaction scores are examined. The one exception where the dependent variable, work satisfaction scores, is found to be statistically significant was noted in the previous paragraph.

The fact that a greater number of the statistically significant relationships found in the data deal with physician contact-promotion satisfaction relationships may indicate that factors related to physiotherapy career structures might be operating to influence job satisfaction levels of respondents in this sample. It is suggested here that the perception of physiotherapy as offering a series of dead-end jobs instead of long-term career options may be contributing to lowered job satisfaction levels since stronger more linear relationships are found when levels of satisfaction with promotion opportunities offered in current jobs are correlated with work satisfaction and promotion satisfaction scores.

There appears to be little recognition for the work done by physiotherapists on the part of referring physicians and many employers. A majority of therapists in this sample indicate a preference for more physician contact in consultant relationships. Most of these respondents treat patients without any direct physician contact. They often receive no feedback from physicians as to whether physiotherapy treatments contributed to a patient's general progress. While 86.0% of therapists in this sample indicate that they are working in settings which offer a preferred treatment autonomy level, only 28.1% are satisfied with patient referral autonomy levels. The percentage of respondents who are satisfied with clinical services autonomy levels is 63.2%. While 56.1% indicate that they would prefer the option of being able to begin treatments without a medical referral on an understanding that patients' physicians are to be contacted later, 82.5% of these respondents also indicate a preference for greater numbers of direct patient referrals in consultant relationships with physicians.

Dissatisfaction with immediate and long-term career opportunities offered in clinical physiotherapy is also indicated. It is suggested here that employers may be perceived as not providing sufficient recognition for the work done by physiotherapy employees. The percentage of respondents who consider their present jobs to be dead-end is 66.7%. While 71.9% indicate that the work they are doing in their current settings is challenging and gives a sense of accomplishment, 45.7% of these therapists indicate that in their opinion, the work physiotherapists do is not generally respected by other groups of employees. In addition, many of these therapists express a view that their current employers usually do not offer promotions to those with specialized clinical skills and postgraduate training. Promotion is more likely to be based on seniority. The percentage of this sample who indicate that they believe that promotion in a current work setting is based on ability is only 19.3%. The percentage of respondents who are very dissatisified with their salaries is 57.9%. It was reported in Chapter I that low salary satisfaction levels are more likely to be an indication that employees are not satisfied with other job-related factors such as few career options and little task diversity. This finding presented here not only suggests a low salary satisfaction level for these respondents but may also be an indicator that these practitioners are not satisfied with factors related to physiotherapy career structures.

While 29.8% of this sample have decided not to make physiotherapy their major career and 15.8% are undecided, 43.9% are satisfied with long-term career opportunities offered in clinical physiotherapy. However, 86.0% of these respondents prefer to have access to a greater variety of career alternatives. Employment of more physiotherapists in community-based work settings such as public schools and health care clinics is suggested as one way to expand physiotherapy career directions by 42.1% of this sample.

Data presented in Chapter IV suggest that task autonomy may not be an important factor contributing to lowered job satisfaction levels of clinical physiotherapists interviewed for this study. A majority of these therapists are satisfied with treatment autonomy levels (86.0%) and clinical services autonomy levels (63.2%) offered in their current work settings. More respondents indicate dissatisfaction with existing levels of patient referral autonomy (71.9%). However, since a greater number of the physician contact variables are significant only when they are correlated with promotion satisfaction scores, having control over the ways in which patients are referred for physiotherapy treatments may not be a major factor influencing job satisfaction levels. In addition, stronger statistically significant relationships are obtained when levels of satisfaction with immediate or long-term career opportunities are correlated with work satisfaction and promotion satisfaction scores. These two major findings suggest that prehaps respondents' perceptions of physiotherapy as offering jobs with very few immediate opportunities or long-term career alternatives is more important as a predictor of job satisfaction levels for this sample than is task autonomy.

Data obtained from this sample indicate that lowered satisfaction with physiotherapy as a career is likely to develop within 5 years after graduation from a physiotherapy programme. For respondents who have decided not to make physiotherapy a sole career (29.8%), 17.7% are 21 to 26 years of age. These same figures for the 27 to 34 and 35 to 50 age groups are 64.7% and 17.6% respectively. Of the therapists who consider their present jobs to be dead-end (66.7%), 13.2% are 21 to 26 years of age, 55.2% are 27 to 34 years, and 31.6% are over 35 years. Work setting does not appear to strongly influence respondents' attitudes toward immediate or long-term job opportunities with 70.0% of the hospital subsample indicating that they consider their current jobs to be dead-end. These same figures for private practices and the W.C.B. Clinic are 65.0% and 64.7% respectively. The percentage of hospital employed therapists who have decided not to make physiotherapy a sole career is 35.0% with 25.0% of the private practice employees and 29.4% of the W.C.B. therapists indicating the same career choice. Stronger more linear relationships which describe the distributions for the variable, intention to make physiotherapy a sole career, and work satisfaction scores may indicate that those respondents over 35 years of age who have decided to make physiotherapy their sole career (29.0%) may still experience lower job satisfaction levels since 31.6% of the therapists in this age group consider their current jobs to be dead-end. Data summarized in Table 4-19 and Table 4-21 indicate that work satisfaction scores tend to level off as intent to make physiotherapy a sole career increases. These same relationships for promotion satisfaction scores are much weaker. These findings suggest that physiotherapists in this age group who perceive that they have few career options may now enjoy their work as clinicians less.

In Chapter V, the ability of all variables contained in the research model discusssed in Chapter II to predict job satisfaction scores is evaluated using multiple regression analysis. Individual variable relationships suggested by this model are assessed with the main purpose being to discover which variables within the model are better predictors of job satisfaction levels.

Bibliography

Babbie, E.R.

1975 The Practice of Social Research.

Belmont, California: Wadsworth Publishing Company.

Kimble, G.A.

1978 How to Use (and Misuse) Statistics.

Englewood Cliffs, N.J.: Prentice-Hall Incorporated.

Kohout, F.J.

1974 Statistics For Social Scientists: A Co-ordinated Learning System.

New York: John Wiley and Sons.

Willemsen, E.W.

1974 Understanding Statistical Reasoning.

San Francisco: W.H. Freeman and Company.

V. The Importance of Task Autonomy Variables as Predictors of Job Satisfaction

A. Introduction

Statistical findings summarized in Chapters III and IV indicate that variables dealing with physician contact and career opportunities may be stronger predictors of job satisfaction levels than the task autonomy variables. Although a number of significant relationships were found when correlations between patient referral autonomy levels and job satisfaction scores were examined, a greater number of these relationships were significant only upon comparison of patient referral autonomy with promotion satisfaction scores. Therefore, it was suggested that this task autonomy variable may be more strongly associated with factors related to lower career satisfaction levels rather than lower job satisfaction scores. In Chapter V, task autonomy variable relationships suggested by the research model presented in Chapter II are further tested by using multiple regression analysis. The purpose of this chapter is to evaluate which of the model components are likely to be stronger predictors of job satisfaction levels by comparing percentages of variation in job satisfaction scores that can be accounted for by each variable when a dependent variable is regressed on all variables contained in the model.

In the next section, each dependent variable (work satisfaction scores or promotion satisfaction scores) is regressed on all remaining model variables simultaneously using standard and stepwise regression. In the latter procedure, only variables that give maximum predictability are included in multiple regression equations whereas all predictor variables being examined are entered into standard regression equations. With both techniques, predictor variables are added one by one so that the independent contribution of each variable to the overall variance in any of the dependent variables can be assessed (Mueller et al., 1977; Wonnacott and Wonnacott, 1977). Subsequent sections consider comparisons of variances when each dependent variable is regressed on all model variables while controlling for the statistical effects of each task autonomy variable. Under these control conditions, path analysis is used to calculate variances for each variable-job satisfaction level relationship (Kim and Kohout, 1975). The concluding section employs standard and stepwise multiple regression analysis to examine relationships between job satisfaction scores and variables dealing with career opportunities. The summary includes a discussion of which model components are likely to be stronger predictors of job satisfaction levels for this sample of physiotherapists. Statistical results are summarized in tables throughout this chapter.

B. Individual Model Variables as Predictors of Job Satisfaction

Results summarized in Table 5-1 indicate that when the dependent variable, work satisfaction scores, is regressed on each independent variable contained in the research model presented in Chapter II, the greatest proportion of variance in work satisfaction scores is explained by the variable, position in the physiotherapy job hierarchy (r2 = 3.77%). Patient referral autonomy accounts for 3.19% of the explained variance in these scores, treatment autonomy, 2.98%, clinical services autonomy, 1.94%, number of direct medical contacts, 1.33%, and postgraduate clinical education levels, 1.15%. These seven variables together account for 14.72% of the variance in work satisfaction scores. Results from the stepwise regression of work satisfaction scores on all model variables presented in Table 5-2 indicate that these variables together explain 13.16% of the variance in work satisfaction scores. The three task autonomy variables account for 54.18% of this total variance. Patient referral autonomy explains the greatest proportion of the total explained variation in work satisfaction scores with a percentage of 3.42%. The percentage of variance in these scores accounted for by the variables, treatment autonomy, position in the physiotherapy job hierarchy, number of direct medical contacts, and postgraduate clinical education levels, is 2.90%, 2.50%, 1.98%, and 1.19% respectively.

Data presented in Table 5-3 suggest that when promotion satisfaction scores are regressed on each of the model variables, the greatest proportion of the variation in these scores is explained by the variable, numbers of direct medical contacts (r2 = 7.11%). Postgraduate clinical education levels accounts for 5.70% of this variation with clinical services autonomy explaining 2.13%. The seven model variables together account for 16.73% of the variance in promotion satisfaction scores. Stepwise regression results summarized in Table 5-4 indicate that all model variables explain 14.73% of the variation in promotion satisfaction scores. The three task autonomy variables account for 23.22%

Table 5-1

Regression of All Variables in The Research Model Upon Work Satisfaction Scores

r2 = 14.72%   p = .100   N = 57

Variables In Regression Equation	Dependent Variable	N	Beta	Amount Of Variance Explained
Formal Education Level	Work Satisfaction	57	.06	0.36%
Amount Of Postgraduate Clinical Education		"	.11	1.15%
Position In The Physiotherapy Job Hierarchy		"	.19	3.77%
Number Of Direct Medical Contacts		"	.12	1.33%
Clinical Services Autonomy		"	-.14	1.94%
Treatment Autonomy		"	.17	2.98%
Patient Referral Autonomy		"	.18	3.19%

Table 5-2

Stepwise Regression of All Variables in The Research Model Upon Work Satisfaction Scores

r2 = 13.16%   p = .100   N = 57

Variables In Regression Equation	Variance Explained By Each Variable	Percentage Of Total Explained Variance
Formal Education Level	0.36%	Education, Job Classification, And Physician Contact Variables
Amount Of Postgraduate Clinical Education	1.19%	45.82%
Position In The Physiotherapy Job Hierarchy	2.50%	
Number Of Direct Medical Contacts	1.98%	
Clinical Services Autonomy	.81%	Task Autonomy Variables
Treatment Autonomy	2.90%	54.18%
Patient Referral Autonomy	3.42%	

Table 5-3

Regression of All Variables in The Research Model Upon Promotion Satisfaction Scores

r2 = 16.73%   p = .100   N = 57

Variables In Regression Equation	Dependent Variable	N	Beta	Amount Of Variance Explained
Formal Education Level	Promotion Satisfaction Scores	57	.04	0.14%
Amount Of Postgraduate Clinical Education		"	.24	5.70%
Position In The Physiotherapy Job Hierarchy		"	-.03	0.12%
Number Of Direct Medical Contacts		"	.27	7.11%
Clinical Services Autonomy		"	-.15	2.31%
Treatment Autonomy		"	-.07	0.53%
Patient Referral Autonomy		"	.09	0.82%

Table 5-4

Stepwise Regression of All Variables in The Research Model Upon Promotion Satisfaction Scores

$r2 = 14.73\%$ $p = .100$ $N = 57$

Variables In Regression Equation	Variance Explained By Each Variable	Percentage Of Total Explained Variance
Formal Education Level	0.14%	Education, Job Classification, And Physician Contact Variables
Amount Of Postgraduate Clinical Education	5.65%	76.78%
Position In The Physiotherapy Job Hierarchy	0.14%	
Number Of Direct Medical Contacts	5.38%	
Clinical Services Autonomy	2.55%	Task Autonomy Variables
Treatment Autonomy	0.78%	23.22%
Patient Referral Autonomy	0.09%	

of this total explained variance. Postgraduate clinical education levels account for the greatest proportion of explained variation in these scores with a percentage of 5.65% while the two variables, number of direct medical contacts, and clinical services autonomy, explain 5.38% and 2.55% respectively.

Data summarized in the first four tables of this chapter indicate that a high proportion of the variance in work satisfaction and promotion satisfaction scores remains unexplained by variables contained in the research model with percentages of 86.84% and 85.27% respectively. When the dependent variable, work satisfaction scores, is regressed on all model variables, the variables, patient referral autonomy, treatment autonomy, and position in the physiotherapy job hierarchy, explain a greater proportion of the variation in work satisfaction scores but with small percentages of 3.42%, 2.90%, and 2.50%, respectively. Therefore, in each of these variable relationships most of the variance in the dependent variable remains unexplained. Low percentages are also found on examination of the model variables that account for most of the explained variance in the dependent variable, promotion satisfaction scores: postgraduate clinical education levels, 5.65%; numbers of direct medical contacts, 5.38%; clinical services autonomy, 2.55%. These findings suggest that the task autonomy variables are not likely to be strong individual predictors of job satisfaction scores for this sample of physiotherapists.

Subsequent sections examine amounts of explained variance when the dependent variables, work satisfaction and promotion satisfaction scores are regressed on the variables, formal education level, postgraduate clinical education level, position in the physiotherapy job hierarchy, and numbers of direct medical contacts, while controlling for the statistical effects of each task autonomy variable.

C. Model Variables as Predictors of Job Satisfaction Controlling for Clinical Services Autonomy

Findings summarized in Table 5-5 indicate that when work satisfaction and promotion satisfaction scores are regressed on the variables dealing with education, job classification, and numbers of direct medical contacts, while controlling for clinical services autonomy, the variable, position in the physiotherapy job hierarchy, accounts for the greatest proportion of explained variance in these scores with percentages of

Table 5-5

Regression of Education, Job Classification, and Direct Physician Contact Variables Upon Job Satisfaction Scores With Clinical Services Autonomy As Predictor Variable

Control Variables	Dependent Variable	Predictor Variable	Beta	Amount Of Variance Explained
	r2 = 12.90%	p = .100	N = 57	
Formal Education Level	Work Satisfaction Scores	Clinical Services Autonomy	-.05	0.88%
Amount Of Postgraduate Clinical Education			.02	0.89%
Position In The Physiotherapy Job Hierarchy			.04	10.29%
Number Of Direct Medical Contacts			.02	0.84%

r2 = 18.18% p = .100 N = 57

Formal Education Level	Promotion Satisfaction Scores	-.01	2.19%
Amount Of Postgraduate Clinical Education		.001	2.09%
Position In The Physiotherapy Job Hierarchy		.05	11.9%
Number Of Direct Medical Contacts		-.002	2.00%

10.29% and 11.9% respectively. These are expected relationships. It has been noted in previous chapters that grade 1 therapists (those with the lowest positions in this job hierarchy) are more likely to be assigned to non-preferred clinical services and therefore, experience lower job satisfaction levels. However, the small beta values found in this table suggest that linear relationships between job satisfaction scores and the control variable, position in the physiotherapy job hierarchy, are very weak when controlling for the effects of the predictor variable, clinical services autonomy. It was suggested in Chapter IV that clinical services autonomy may be a weak predictor of job satisfaction levels for respondents in this sample since a high percentage of these therapists expressed satisfaction with clinical services autonomy levels offered in current work settings (63.2%).

D. Model Variables as Predictors of Job Satisfaction Controlling for Treatment Autonomy

Data summarized in Table 5-6 indicate that the variable, formal education level, accounts for the greatest proportion of explained variation in the dependent variables, work satisfaction and promotion satisfaction scores, with treatment autonomy as a predictor variable. However, low percentages of 3.70% and 1.86% respectively are found. In addition, weak linear relationships are indicated by small beta values presented in this table. These variable relationships may have little impact on job satisfaction scores due to a high percentage of respondents in this sample expressing satisfaction with treatment autonomy levels offered by current employers (86.0%). Those experiencing lower treatment autonomy levels tend to prefer treatment choice restrictions at this point in their clinical careers. This issue was discussed in Chapter III.

E. Model Variables as Predictors of Job Satisfaction Controlling for Patient Referral Autonomy

Findings summarized in Table 5-7 indicate that when the dependent variables, work satisfaction and promotion satisfaction scores, are regressed on the four control variables (formal education level, amount of postgraduate clinical education, position in the physiotherapy job hierarchy, and numbers of direct medical contacts) while

Table 5-6

Regression of Education, Job Classification, and Direct Physician Contact Variables Upon Job Satisfaction Scores With Treatment Autonomy As Predictor Variable

Control Variables	Dependent Variable	Predictor Variable	Beta	Amount Of Variance Explained
	r2 = 11.55%	p = .100	N = 57	
Formal Education Level	Work Satisfaction Scores	Treatment Autonomy	.008	3.70%
Amount Of Postgraduate Clinical Education			.05	2.47%
Position In The Physiotherapy Job Hierarchy			-.05	2.67%
Number Of Direct Medical Contacts			.005	2.71%

r2 = 4.02% p = .100 N = 57

Formal Education Level	Promotion Satisfaction Scores	-.006	1.86%
Amount Of Postgraduate Clinical Education		.03	0.55%
Position In The Physiotherapy Job Hierarchy		-.06	0.84%
Number Of Direct Medical Contacts		.01	0.77%

Table 5-7

Regression of Education, Job Classification, and Direct Physician Contact Variables Upon Job Satisfaction Scores With Patient Referral Autonomy As Predictor Variable

Control Variables	Dependent Variable	Predictor Variable	Beta	Amount Of Variance Explained
	r2 = 15.62% p = .100 N = 57			
Formal Education Level	Work Satisfaction Scores	Patient Referral Autonomy	.01	4.58%
Amount Of Postgraduate Clinical Education			.03	5.69%
Position In The Physiotherapy Job Hierarchy			-.02	2.47%
Number Of Direct Medical Contacts			-.003	2.88%

r2 = 9.56% p = .100 N = 57

Formal Education Level	Promotion Satisfaction Scores	.04	3.13%
Amount Of Postgraduate Clinical Education		.002	4.22%
Position In The Physiotherapy Job Hierarchy		-.06	0.95%
Number Of Direct Medical Contacts		-.008	1.26%

controlling for the effects of the predictor variable, patient referral autonomy, the control variable, amount of postgraduate clinical education, explains a greater amount of the variance in the dependent variables, work satisfaction scores and promotion satisfaction scores. This control variable accounts for 5.69% of the variance in work satisfaction scores and 4.22% in promotion satisfaction scores. However, small beta values presented in this table suggest weak linear relationships between these variables. It was suggested in Chapter IV that although most of the respondents in this sample expressed dissatisfaction with patient referral autonomy levels in their current work settings (71.9%), this variable may have relatively little impact on job satisfaction scores. A greater number of relationships dealing with patient referral autonomy and job satisfaction levels were found to be statistically significant only when correlated with promotion satisfaction scores. In addition, it was emphasized in Chapters II and III that physician dialogue is often difficult for physiotherapists to establish but this contact is usually not required when treating patients. Data summarized in Chapters III and IV appear to indicate that factors related to physiotherapy career structures may be more important as predictors of job satisfaction levels.

The next section examines relationships between variables considering career opportunities and job satisfaction scores. Since a greater number of statistically significant relationships between patient referral autonomy levels and promotion satisfaction scores were found in Chapter IV when these same relationships are compared to clinical services autonomy and treatment autonomy levels, the variable, patient referral autonomy, is included in a stepwise regression analysis with the two variables, promotion opportunities in present job, and intention to make physiotherapy a sole career.

F. Career Opportunity Variables as Predictors of Job Satisfaction

Findings summarized in Table 5-8 indicate that the variable, promotion opportunities in present job, accounts for more of the variance in promotion satisfaction scores (40.70%). A moderately strong linear relationship is indicated by a large beta value. Although the variable, intention to make physiotherapy a sole career, explains more of the variance in work satisfaction scores (26.59%), it accounts for less of the variation in

Table 5-8

Regression of Career Opportunity Variables Upon Job Satisfaction Scores

Variables In Regression Equation	Dependent Variable	Beta		Amount Of Variance Explained
	r2 = 52.32%	**p = .005**	**N = 57**	
Promotion Opportunities In Present Job	Work Satisfaction Scores	.507		25.73%
Intention To Make Physiotherapy A Sole Career		.516		26.59%
	r2 = 42.22%	**p = .005**	**N = 57**	
Promotion Opportunities In Present Job	Promotion Satisfaction Scores	.638		40.70%
Intention To Make Physiotherapy A Sole Career		.123		1.52%

promotion satisfaction scores (1.52%). The variable, promotion opportunities in present job, explains slightly less of the variance in work satisfaction scores with a percentage of 25.73%. Large beta values indicate moderately strong linear relationships with the exception of the relationship between intention to make physiotherapy a sole career and promotion satisfaction scores. Here, a weaker linear relationship is indicated by a small beta value.

Findings presented in Table 5-9 suggest that the three variables, immediate promotion opportunities, intention to make physiotherapy a sole career, and patient referral autonomy, jointly account for 40.73% of the variation in work satisfaction scores. The variable, immediate promotion opportunities, accounts for more of the total variance with a percentage of 23.32%. Intention to make physiotherapy a sole career explains 14.23% of this variance and patient referral autonomy, 3.18%. Findings also indicate that these three control variables jointly explain 41.12% of the variation in promotion satisfaction scores with immediate promotion opportunities accounting for 39.95% of this total variation.

Data presented in these last two tables suggest that factors related to physiotherapy career alternatives are more likely to be stronger predictors of job satisfaction levels for this sample of therapists. In Chapter IV, it was discovered that most of these respondents consider their current jobs to be dead-end (66.7%). Factors related to patient referral autonomy may not be as important in influencing job satisfaction levels. As discussed previously, physician contact is often difficult to establish and if this dialogue is unnecessary during patients' treatments, patient referral autonomy is more likely to be a relatively unimportant factor. More physician contact might be desireable but it is generally not a requirement for job performance.

G. Summary

There appears to be little statistical support for the task autonomy relationships suggested by the research model outlined in Chapter II. The three task autonomy variables appear to be weak predictors of job satisfaction levels for this sample of clinical physiotherapists. Factors related to immediate job opportunities and long-term career alternatives are likely to have a stronger impact on job satisfaction scores for this group.

Table 5-9

Stepwise Regression of Career Opportunity Variables and Patient Referral Autonomy Upon Job Satisfaction Scores

Variables In Regression Equation	Dependent Variable	Variance Explained By Each Variable
	r2 = 40.73% p = .005 N = 57	
Promotion Opportunities In Present Job	Work Satisfaction Scores	23.32%
Intention To Make Physiotherapy A Sole Career		14.23%
Patient Referral Autonomy		3.18%
	r2 = 41.12% p = .005 N = 57	
Promotion Opportunities In Present Job	Promotion Satisfaction Scores	39.95%
Intention To Make Physiotherapy A Sole Career		0.35%
Patient Referral Autonomy		0.82%

The aim of testing hypotheses developed in Chapter II has not been to establish causality between variables contained within the research model. It was emphasized in the first two chapters that factors related to job satisfaction levels of paramedical personnel have not been extensively investigated. Therefore, with a small sample (N=57) and very little previous research, the main purpose of three stages of statistical analysis has been more an attempt to suggest which model variables might be more strongly related to changes in the job satisfaction scores of respondents.

A number of statistically significant curvilinear relationships were discussed in Chapter IV but most of them describe correlations between one of the model variables and the dependent variable, promotion satisfaction scores, while controlling for the statistical effects of the variable, patient referral autonomy. These same relationships tend not to be significant when the dependent variable is work satisfaction scores. Therefore, it was suggested that variables in these relationships may be more strongly correlated with factors related to physiotherapy career issues even though only 28.1% of the respondents are satisfied with present patient referral autonomy levels. Data presented in Chapter IV also indicated that generally, weak curvilinear relationships which are not statistically significant are found between model variables and all job satisfaction scores while controlling for the effects of the variables, clinical services autonomy and treatment autonomy. Most of the therapists in this sample are satisfied with clinical services autonomy and treatment autonomy levels (63.2% and 86.0% respectively) offered in their current work settings.

Findings summarized in Chapter V show that little of the variance in each set of job satisfaction scores is explained by the variables, formal education level, amount of postgraduate clinical education, position in the physiotherapy job hierarchy, number of direct medical contacts, clinical services autonomy, treatment autonomy, or patient referral autonomy, when as dependent variables, work satisfaction scores or promotion satisfaction scores are regressed on these model variables. Data summarized in Chapters III, IV, and V, indicate that stronger statistically significant relationships are found when associations between variables dealing with immediate and long-term clinical physiotherapy career opportunities and all job satisfaction scores are examined.

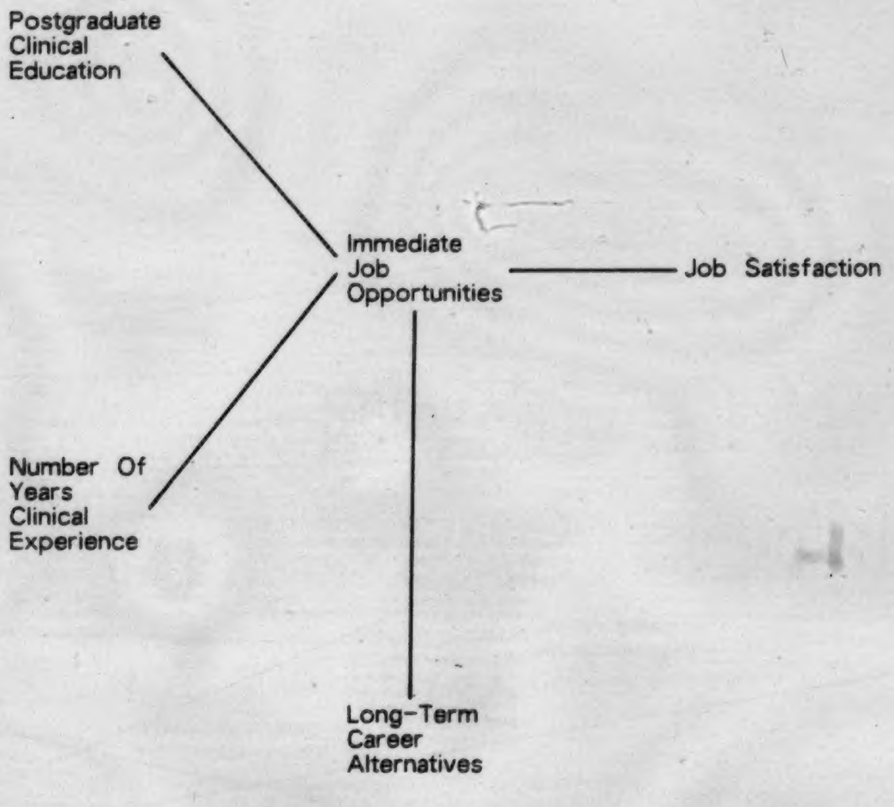
Although a majority of the therapists in this sample consider their current jobs to be dead-end (66.7%), a smaller percentage have decided not to make physiotherapy a sole career (29.8%). In Chapter IV, it was suggested that dissatisfaction with physiotherapy as a career is likely to develop within 5 years after graduation from a first physiotherapy programme. For this sample, it was reported that 55.2% of the respondents who consider their current jobs to be dead-end comprise the 27 to 34 age group and 64.7% of those who have decided not to make physiotherapy a sole career are part of this same age group. In addition, significantly lower work satisfaction scores were indicated for therapists who do not intend to make physiotherapy their sole careers. This finding may suggest that some therapists are likely to leave clinical physiotherapy mainly because they do not like the work. However, it is suggested here that the number of years of clinical experience that a therapist has is likely to influence an individual's perceptions of physiotherapy as a long-term career. These feelings about career alternatives may then affect work satisfaction levels.

Amounts of postgraduate clinical education obtained by practitioners is also suggested as an additional factor operating to influence therapists' attitudes toward careers in clinical physiotherapy. In Chapter IV, statistically significant curvilinear relationships were found when correlations between the variables, amount of postgraduate clinical education and promotion satisfaction scores, were examined. These scores are lower for therapists with more postgraduate clinical education. With 80.7% of this sample expressing the view that promotion in their current jobs is more likely to be based on seniority rather than ability, it is suggested here that therapists who have obtained postgraduate clinical training are likely to be less satisfied with immediate job opportunities if this additional education does not eventually lead to alternative long-term career directions.

Data presented in Chapters III, IV, and V, indicate that factors related to physiotherapy career structures are more likely to alter job satisfaction levels of respondents in this study. Therefore, a different set of variable relationships is now proposed and presented in a model format (see figure 5-1). The rationale for including the variables, amount of postgraduate clinical education, number of years of clinical experience, immediate job opportunities, and long-term career alternatives, has been

Figure 5-1

Suggested Relationships Between Career-Related Factors and Job Satisfaction Levels


Postgraduate Clinical Education
Immediate Job Opportunities
Job Satisfaction
Number Of Years Clinical Experience
Long-Term Career Alternatives

discussed throughout this summary section. These variable components suggest that job satisfaction scores are likely to be lower for therapists who have attended greater numbers of postgraduate clinical courses or have worked more than 5 years as practitioners but perceive that few career directions exist in their current jobs. A series of these dead-end job situations might possibly lead to an evaluation of long-term career alternatives offered in clinical settings.

In Chapter I, restricted task autonomy and few career alternatives were identified as two factors likely to affect job satisfaction levels of physiotherapy practitioners. Hypotheses based on a research model were developed in Chapter II to test whether certain factors related to task autonomy are stronger predictors of job satisfaction scores. The results of statistical analyses were presented in Chapters III, IV, and V. Findings indicated that present job controls generally found in physiotherapy work settings may be less important as predictors of job satisfaction levels. More of the variation in job satisfaction scores for the respondents in this study is explained by variables considering immediate job opportunities and long-term career alternatives. Consequently, another set of variable relationships that deal with career-related factors has been developed and presented in a model format in this summary section. Data analyzed in three previous chapters appear to indicate that career-related variables are likely to be stronger predictors of job satisfaction levels for this sample of clinical therapists.

This investigation has been limited to an analysis of task autonomy levels and job satisfaction scores in immediate job situations. In Chapter VI, possible implications for some of the broader physiotherapy occupation issues introduced in Chapter I will be discussed in view of conclusions presented in this chapter. In addition, alternative approaches for future job satisfaction studies of physiotherapists and other paramedical occupations are considered.

Bibliography

Kim, J., and F.J. Kohout

1975 "Special Topics in General Linear Models." in Statistical Package For The Social Sciences. N.H. Nie, C.H. Hull, J.G. Jenkins, K. Steinbrenner, and D.H. Bent (editors); Second edition; New York: McGraw-Hill Company; pgs. 368-397.

Mueller, J.H., K.F. Schuessler, and H.L. Costner

1977 Statistical Reasoning in Sociology. Third edition; Boston: Houghton Mifflin Company.

Wonnacott, T.H., and R.J. Wonnacott

1977 Introductory Statistics For Business and Economics. Second edition; Santa Barbara, California: John Wiley and Sons.

VI. Conclusions

A. Introduction

Results of this study indicate that task autonomy may be less important as a variable influencing job satisfaction levels of practicing physiotherapists than variables which consider factors related to physiotherapy career alternatives. These findings are now generalized to consider clinical therapists working in Canada with subsequent subsections including discusssions of possible implications of findings from this study for some of the more salient physiotherapy occupation issues presented in Chapter I. Directions for future research of factors related to job satisfaction levels for paramedical employees are suggested in the concluding section of this chapter.

B. General Implications

Task Autonomy Levels

In Chapters I and II, it was hypothesized that various job controls present in current physiotherapy work settings are likely to be factors operating to lower job satisfaction levels of practitioners. In addition, due to a recent emphasis placed on physiotherapy research by Canadian university-based physiotherapy schools, it was further suggested that therapists who have completed research methods courses or greater numbers of postgraduate clinical courses are more likely to experience higher job satisfaction scores in settings offering higher task autonomy levels where research projects and specialized skills can be developed. However, no significant between group differences in task autonomy-job satisfaction relationships were found in Chapters III and IV. Development of clinical research in physiotherapy was not given much support by respondents in this study with 84.2% of these therapists indicating that a graduate degree should not be the basic level of physiotherapy education and 42.1% expressing the view that physiotherapy is a practical occupation which should direct its efforts mainly to treating patients.

Development of a research base in physiotherapy was discussed as having important consequences for the professional growth of this occupation in Chapter I. Current physiotherapy leaders and educators stress that research is necessary if physiotherapy is to have a science supporting its clinical practices. In addition, graduate education for therapists is viewed as a requirement if this occupation is to replace its technical image with a more professional one. It is also argued that with graduate degrees clinical therapists are more likely to increase their career options by being able to apply for management and research positions. However, if opinions reported in this study represent views likely to be expressed by greater numbers of therapists employed in Canadian clinical settings, growth in physiotherapy research activity may be slow. Although Canadian physiotherapy schools require that their students complete research methods courses, practicing therapists may be relatively satisfied working within the restrictions of existing job controls (assigned clinical services, possible treatment choice restrictions, some or no control over whether patients are referred by physicians directly or indirectly) and view themselves primarily as practical therapists with little interest in developing clinical research projects.

Career-Related Variables

Although the major purpose of this investigation was to establish whether the variable, task autonomy, is an important predictor of job satisfaction levels for practicing physiotherapists, restricted task autonomy and few career alternatives for clinical therapists were identified in Chapter I as two main factors that may be operating to lower job satisfaction levels of physiotherapy practitioners. Data summarized in Chapters III, IV, and V, indicate that factors related to immediate job opportunities and long-term career alternatives are likely to be strong predictors of job satisfaction scores. Presently, Canadian hospitals employ more physiotherapists than do private practices or other organizational settings. However, hospitals were criticized in Chapter I as offering paramedical employees few career options and resisting their attempts to establish autonomous research and managerial roles. Therapists are usually hired to work in a more technical capacity and expected to treat patients only.

A majority of the therapists interviewed for this study consider their current jobs to be dead-end (66.7%). No significant differences were found between the three work settings (hospitals, private practices, Workers' Compensation Board Clinic). Factors inhibiting a development of career options for clinicians were discussed in Chapter I. The view held by some physiotherapy educators that if therapists want to apply for management and research positions, graduate level education as the minimum qualification for clinical practice is required was presented. However, physiotherapists are still able to practice in Canada with diploma qualifications. Also, there are few incentives to encourage an expansion of clinical specialization in various areas of physiotherapy practice even though physiotherapy associations sponsor postgraduate courses in these areas. It was noted in Chapter I that clinical specialists are not formally recognized by Canadian physiotherapy associations and in addition, usually receive no increase in salary or promotion for their extra postgraduate training. Given that physiotherapy clinicians are not likely to support graduate level education as a requirement for practice and appear to have little interest in clinical research, rapid changes in physiotherapy career alternatives may not occur. This occupation will probably continue to loose therapists who want careers that offer a variety of directions. In this study, 29.8% of the respondents have decided to leave physiotherapy and 15.8% are undecided. If most therapists view their present jobs as offering no future opportunities, job turnover rates are likely to remain relatively high.

Job Satisfaction and Job Turnover Rates

Conditions likely to decrease job satisfaction levels and increase job turnover rates for most employees in a variety of occupations were discussed in Chapter I. It was emphasized that job changes usually occur when other jobs are available and an individual feels that a current position does not offer enough career options, adequate opportunities to develop special abilities, or sufficient task autonomy levels. Results of this study suggest that practicing physiotherapists may be relatively satisfied with present task autonomy levels but not as satisfied with numbers of career options.

Two of the stronger predictors of job satisfaction levels for most employees reported in Chapter I were skill utilization and task diversity. Job satisfaction scores were found to be higher when workers feel that their skills match the demands of a job and a variety of tasks are required for any one position. Underutilization of an employee's skills or task overload was found to result in lowered job satisfaction. It was noted that highly skilled employees are more likely to experience higher satisfaction levels in jobs that involve various activities such as teaching or consulting in addition to expected technical duties. Data summarized in Chapter IV indicate that 71.9% of the therapists interviewed for this study feel that their work is challenging and gives a sense of accomplishment. These findings suggest that physiotherapists are not likely to feel that their clinical skills are being underutilized. However, task diversity may be a factor operating to lower job satisfaction levels when a majority of these respondents view their current jobs as being dead-end. Opportunities to develop other job-related skills in areas such as health services management or community-based consulting in addition to treating patient caseloads are usually not available in most physiotherapy work settings.

While physiotherapy associations and university schools are currently emphasizing that a development of career alternatives can only occur by establishing graduate programmes that prepare therapists for diversified clinical roles in health services management and research, physiotherapists practicing in most clinical settings have to cope with a number of contradictions inherent in physician-dominated work settings. In Chapter I, a discussion of the occupational status of physiotherapy indicated that because many practitioners working in Canada have received a university-based training, these employees are more likely to view themselves as being "professional" when compared to other paramedical employees who have technical school diplomas. However, it was emphasized that all paramedical therapists and technicians are usually employed to provide specific patient services under the direction of referring physicians and administrative personnel whether they treat patients or work as diagnostic technicians. Although physiotherapy students at universities are being encouraged to consider graduate level education and a variety of clinical career options, employers and referring physicians are more likely to expect qualified therapists to work at jobs rather than use work settings to combine long-term career goals in research or management with providing patient services. It was noted in Chapter I that these opportunities have in the past been offered only to physicians.

Although Canadian physiotherapy schools tend to have an over-supply of applicants each year (Gartland, 1977; Cole, 1978), a continued high turnover of clinical therapists is likely particularily in hospital physiotherapy departments. Data presented in Chapter III indicated that only 3.5% of respondents interviewed for this study expect to be employed in a hospital or Workers' Compensation Board Clinic as future work settings. Approximately one-third of the total sample (35.0%) expect to be private practice owners. If these are the preferences of most Canadian practitioners, hospitals may experience higher job turnover rates. It is currently argued that a reduction in these rates for university trained health care workers is more likely to occur if hospitals offer these employees not only short-term jobs but long-term career alternatives (White, 1980). Recent studies of physiotherapy students' expectations indicate that they expect to be able to work in a variety of community-based settings in addition to hospitals with opportunities in all settings to participate in clinical research projects and community preventative health programmes (Thomas et al., 1980; Peat, 1981). Data summarized in Chapter III indicated that 63.2% of the therapists who participated in this study expected as physiotherapy students to practice mainly in hospital settings. These findings suggest that possibly more recent students' job-related goals may be changing with more emphasis placed on greater numbers of different work settings and long-term careers in physiotherapy.

Clinical practitioners are not likely to experience rapid increases in numbers of career options available in existing physiotherapy work settings when hospitals have resisted attempts by different groups of health care workers to establish more autonomous non-technical roles. In addition, results of this study indicate that physiotherapists are likely to view themselves as offering a practical service and therefore, demonstrate little interest in developing clinical research opportunities. While clinical work settings experience high job turnover rates, university-based physiotherapy schools do not have difficulty in attracting students who due to a current emphasis on graduate qualifications for physiotherapists are likely to develop expectations of many career alternatives in clinical settings. This situation may not improve if existing career structures do not expand and increasing numbers of newly qualified therapists view their jobs as dead-end positions and then decide to leave physiotherapy altogether.

C. Suggestions For Future Research

Frustrations encountered by therapists practicing in existing clinical settings were discussed in Chapter I and re-emphasized in this chapter. Factors related to task autonomy do not appear to have as strong an influence on job satisfaction scores of participants in this study as variables associated with a relative lack of career options offered by most work settings. Clinicians are likely to be satisfied with existing levels of treatment autonomy and clinical services autonomy. Although therapists may express disssatisfaction with amounts of control they have over patient referrals, frequent direct therapist-physician contact is usually not a requirement for job performance. Therefore, higher levels of patient referral autonomy are likely to be considered as unnecessary. Consequently, clinical therapists are less likely to be concerned about their professional image even though there is evidence to indicate that referring physicians often consider physiotherapists to be technicians and not consultants with expertise in treating musculo-skeletal problems (Silva et al., 1981). Results of this study suggest that problems related to medical referral and physician dialogue issues discussed in Chapter I are less likely to affect job satisfaction levels of physiotherapists currently employed in Canadian hospitals, private practices, or Workers' Compensation Board Clinics. Although physiotherapy associations indicate an interest in obtaining higher levels of clinical independence, these issues may be of less concern to therapists practicing in hospital departments who feel that their current jobs are dead-end. While data reported in this study indicate that therapists show little interest in increasing numbers of career alternatives through graduate degree programmes or developing a clinical research base, these clinicians also express strong dissatisfaction with a lack of future career directions offered by their present jobs.

Although therapists complain about restricted career options as discussed in Chapter I, there is little empirical research to indicate what types of career options are preferred by physiotherapy practitioners. If clinicians are not interested in research development but express a preference for community-based work settings, is this an indication that these employees want jobs with more opportunities in public health education or health services consulting in addition to treating patients. Types of preferred career directions have only been suggested but not investigated (cf., Bennett, 1977; McPhee, 1977). Some of these proposed alternatives presented in Chapter I assume that clinical therapists will be interested in research design and hospital management opportunities. Results of this study indicate that for the present, many clinical practitioners may not want to participate directly in clinical research development.

If more therapists continue to practice for longer periods of time without interruptions for family-related reasons, job expectations may change. In a predominantly female occupation, a series of physiotherapy jobs was an expected interval between university, marriage, and discontinuing practice to raise children (Ussher and Holley, 1963; Hall, 1970). Although there is evidence to indicate that most physiotherapy students expect to be married shortly after graduation (Nordholm and Westbrook, 1979), results of this study suggest a possible change in attitude towards physiotherapy as a series of short-term jobs before a long period of absence to care for children. In Chapter III, the mean age of therapists interviewed for this study was reported to be 31 years with these practitioners having worked an average of 8 years. Current information about an average length of time therapists with family responsibilities expect to practice is required. The assumption that therapists continue to view their physiotherapy careers as a series of short-term jobs before marriage and caring for a family may now be incorrect.

In Chapter I, relatively high job turnover rates were reported for most paramedical groups but it was noted that few studies have been undertaken to identify factors operating to lower job satisfaction levels of these employees. If variables related to immediate and long-term career alternatives are also strong predictors of job satisfaction scores for other paramedical occupations, trends indicated by this study suggest that job turnover rates are likely to remain high. As reported in Chapters IV and V, most of the therapists in this sample feel that their current jobs offer no future opportunities and are found to experience lower job satisfaction levels when career-related variables are correlated with job satisfaction scores. In addition, a majority of these respondents indicate that they do not want to work for long periods in organizational settings expressing a strong interest in private and community-based practices as preferred future work settings. It was noted previously that approximately one-third of these therapists eventually want to establish their own private practices as owners. Whether factors associated with career options are related to job satisfaction levels and job turnover rates for other paramedical occupations requires further study. Such information might reveal that these employees are dissatisfied with limited career prospects offered in hospital departments and now want to expand from the more traditional hospital base and practice in different settings where opportunities to combine patient service with other job-related activities such as consulting or teaching may be possible.

D. Summary

Restricted career alternatives has been identified as a possible major predictor of job satisfaction levels for clinical physiotherapists. However, the discussion presented in this chapter indicates that a slow growth in diversity of clinical career options offered in organizational settings where most practitioners are employed is likely. If employers continue to expect therapists to work mainly in a more technical capacity and therapists view themselves as practical clinicians with little interest in graduate level education for physiotherapists or developing research projects in clinical settings, new career directions will be more difficult to establish. Continued high job turnover rates are likely when increasingly physiotherapy students may expect to have clinical career options that are not usually offered by employers. The set of career-related variable relationships presented in Chapter V (see figure 5-1) suggests that job satisfaction scores may be lower for practicing therapists who have attended greater numbers of postgraduate clinical courses or have more than 5 years of practical work experience and feel that their present jobs offer few immediate opportunities and clinical physiotherapy lacks sufficient long-term career alternatives. If recently graduated therapists have high career expectations and an expansion of clinical career directions is slow in most work settings, this occupation may loose greater numbers of more highly qualified practitioners.

Journals of various physiotherapy associations have focused attention on issues related to task autonomy such as whether clinicians should continue to work under restrictions of the present medical referral system and therapists' complaints about a relative lack of clinical career options. Results of this investigation suggest that variables related to clinical career structures may be operating to lower job satisfaction levels and increase turnover rates of physiotherapy practitioners as respondents appear to be relatively satisfied with existing levels of task autonomy. Therefore, three major directions for future job-related studies were recommended. In a predominantly female occupation, current information about lengths of time therapists expect to practice without breaks to care for children is required since data presented in this study indicate that therapists' attitudes may be changing to consider physiotherapy as a long-term rather than a short-term career. In addition, with therapists in this sample expressing little interest in clinical research development, information about career option preferences of these employees is also needed. Other groups of hospital workers experience high job turnover rates and therefore, it was suggested that career-related studies of different paramedical occupations might reveal a widespread dissatisfaction with hospital career structures. This was considered to be important since a majority of therapists interviewed for this study expressed dissatisfaction with future opportunities offered by their immediate jobs and in addition, indicated that they did not want to work in organizational settings for long periods of time. Other groups of paramedical employees may no longer prefer to practice in hospital department settings where career options are likely to be restricted.

With a possible slow growth in diversity of clinical career directions, physiotherapy job turnover rates are likely to remain relatively high. Although there may be a gradual increase in numbers of physiotherapy private practices, if recent physiotherapy graduates retain their high career expectations after current realities of clinical work activities are experienced, turnover rates and percentages of those leaving this occupation might increase. By focusing future job satisfaction studies on variables related to clinical career structures and how these factors are likely to influence job satisfaction levels of physiotherapists and other paramedical occupations, variables associated with job turnover rates of these hospital-based employees might then be identified.

Bibliography

Bennett, B.A.

1977 "Stimulus and Response: Some Social Indicators of the Physiotherapy Profession." Australian Journal of Physiotherapy 23:21-27.

Cole, J.H.

1978 "The Student Selection Process in Three Countries." Australian Journal of Physiotherapy 24:187-193.

Gartland, G.J.

1977 "Synopsis of a Study of Admissions Criteria For Physical Therapy Programs." Physiotherapy Canada 29:7-10.

Hall, O.

1970 The Paramedical Occupations in Ontario. Queen's Printer: Toronto.

McPhee, B.

1977 "Physiotherapy- Open Minds?" Australian Journal of Physiotherapy 23:165-169.

Nordholm, L.A., and M.T. Westbrook

1979 "Graduating Physiotherapists' Perceptions of Their Career Choice." Australian Journal of Physiotherapy 25:219-223.

Peat, M.

1981 "Physiotherapy: Art or Science?" Physiotherapy Canada 33:170-176.

Silva, D.M., S.D. Clark, and G. Raymond

1981 "California Physicians' Professional Image of Physical Therapists."
Physical Therapy 61:1152-1157.

Thomas, A., S. Hornstein, M. Martin, T. Tilbury, and M. Bolduc

1980 "Physiotherapy's Future: Student Views."
Physiotherapy Canada 32:98-99.

Ussher, B., and L.S. Holley

1963 "A Survey of Inactive Physical Therapists."
Physical Therapy 43:100-104.

White, C.H.

1980 "Where Have All the Nurses Gone and Why?"
Hospitals 54:68-71.

VII. Bibliography

Abdel-Halim, A.A.

1979 "Individual and Interpersonal Moderators of Employee Reactions to Job Characteristics: A Reexamination." Personnel Psychology 32:121-137.

Aldag, R.J., and A.P. Brief

1978 "Examination of Alternative Models of Job Satisfaction." Human Relations 31:91-98.

Alderfer, C.P.

1967 "An Organizational Syndrome." Administrative Science Quarterly 12:440-460.

Alutto, J.A., and F. Acito

1974 "Decisional Participation and Sources of Job Satisfaction: A Study of Manufacturing Personnel." Academy of Management Journal 17:160-167.

Alutto, J.A., and J.A. Belasco

1972 "A Typology For Participation in Organizational Decision Making." Administrative Science Quarterly 17:117-125.

Alutto, J.A., and D.J. Vredenburg

1977 "Characteristics of Decisional Participation by Nurses." Academy of Management Journal 20:341-347.

Andrews, F.M., and D.C. Pelz

1976 Scientists In Organizations. Ann Arbor: University of Michigan Press.

Arvey, R.D., and H.D. Dewhirst

1979 "Relationships Between Diversity of Interests, Age, Job Satisfaction and Job Performance."
Journal of Occupational Psychology 52:17-23.

Association of Chartered Physiotherapists of Alberta

1978 Newsletter.
Edmonton: Association of Chartered Physiotherapists of Alberta.

1979 Mailing List.
Edmonton: Association of Chartered Physiotherapists of Alberta.

Australian Physiotherapy Association

1978 Code of Ethics.
South Melbourne, Vic.: The Australian Physiotherapy Association.

1980 "Editorial."
Australian Journal of Physiotherapy 60:43.

Babbie, E.R.

1975 The Practice of Social Research.
Belmont, California: Wadsworth Publishing Company.

Bachman, J.G., D.G. Bowers, and P.M. Marcus

1968 "Bases of Supervisory Power: A Comparative Study in Five Organizational Settings."
in Control In Organizations. A.S. Tannenbaum (editor); New York: McGraw-Hill Inc., 1968; pgs. 229-237.

Bain, W.

1969 "Turnover of Nursing and Paramedical Staff in 23 Ontario Hospitals."
Canadian Hospital 46:38-41.

Baker, S.H., and R.A. Hansen

1975 "Job Design and Worker Satisfaction: A Challenge To Assumptions." Journal of Occupational Psychology 48:79-91.

Ballin, A.J., W.H. Breslin, K.A. Scott-Wierenga, and K.F. Shepard

1980 "Research in Physical Therapy." Physical Therapy 60:888-895.

Barnes, M.R., and C.A. Crutchfield

1977 "Job Satisfaction-Dissatisfaction." Physical Therapy 57:35-41.

Barrett, G.V., J.B. Forbes, E.J. O'Connor, and R.A. Alexander

1980 "Ability-Satisfaction Relationships: Field and Laboratory Studies." Academy of Management Journal 23:550-555.

Bartlett, R.C.

1977 "The 1977 Presidential Address." Physical Therapy 57:1249-1256.

Basmajian, J.V.

1977 "Professional Survival: The Research Role in Physical Therapy." Physical Therapy 57:283-285.

Bennett, B.A.

1977 "Stimulus and Response: Some Social Indicators of the Physiotherapy Profession." Australian Journal of Physiotherapy 23:21-27.

Bisconti, A., and L.C. Solmon

1977 Job Satisfaction After College: The Graduates' Viewpoint. Bethlehem, Pa.: CPC Foundation.

Blair, D.C.

1979 "Practice of Physiotherapy."
Canadian Medical Association Journal 120:519-520.

Blau, J.R.

1979 "Expertise and Power in Professional Organizations."
Sociology of Work and Occupations 6:103-123.

Blau, P.M., and W.R. Scott

1962 *Formal Organizations: A Comparative Approach.*
San Franciso: Chandler Publishing Company.

Brook, N., C. Eales, A. Mason, A. Parry, and M. Warren

1978 "Graduate Physiotherapists."
Letters. Physiotherapy 64:20.

Bucher, R., and A. Strauss

1961 "Professions In Process."
American Journal of Sociology 66:325-334.

Bucher, R., and J. Stelling

1977 "Characteristics of Professional Organizations."
in *Colleagues in Organizations.* R. Blankenship
(editor); New York: John Wiley and Sons; pgs. 121-144.

Burstein, M., N. Tienhaara, P. Hewson, and B. Warrander

1975 *Canadian Work Values.*
Ottawa: Manpower and Immigration, Strategic Planning and Research.

Calbeck, D.C., A.G. Vaden, and R.E. Vaden

1979 "Work-Related Values and Satisfactions."
Journal of The American Dietetic Association 75:434-440.

Canadian Physiotherapy Association

1950 "University of Toronto, The New Course In Physical and Occupational Therapy." Journal of the Canadian Physiotherapy Association 2:39.

1974 Job Descriptions For Physiotherapists. Toronto: Canadian Physiotherapy Association.

1974 "Membership Requirements For New Canadian Graduates." Physiotherapy Canada 26:212.

1976 Standards For The Home Care Physiotherapist. Toronto: Canadian Physiotherapy Association.

1978 "New C.P.A. President Replies to C.M.A." Physiotherapy Canada 30:267.

1979 "Referral Debate Makes Headlines in Ontario." Physiotherapy Canada 31:41-43.

1979 "C.P.A. President Addresses Question of Referral." Physiotherapy Canada 31:165.

1981 By-Laws And Standing Rules. Toronto: Canadian Physiotherapy Association.

Carpenter, H.H.

1971 "Formal Organizational Structural Factors and Perceived Job Satisfaction of Classroom Teachers."

Administrative Science Quarterly 16:460-465.

Carroll, B.

1973 Job Satisfaction. A Review of the Literature.

New York State School of Industrial Labor Relations, Cornell University.

Chartered Society of Physiotherapy

1976 "The Reason Why."

Physiotherapy 62:113.

1978 "Extending Responsibilities."

Physiotherapy 64:197.

1979 "Higher and Further Education."

Physiotherapy 65:84-85.

Cleather, J.

1980 "Research: Key for the '80s."

Physiotherapy Canada 32:133.

Clifton, S.

1979 "Open Access To A Physiotherapy Department."

Physiotherapy 65:308-311.

Cole, J.H.

1978 "The Student Selection Process in Three Countries."

Australian Journal of Physiotherapy 24:187-193.

Conine, T.A.

1972 "A Survey of the Graduates of a Professional Physiotherapy Program."
Physical Therapy 52:855-861.

Corwin, R.G., M.J. Taves, and J.E. Haas

1961 "Professional Disillusionment."
Nursing Research 10:141-144.

Currier, D.P.

1977 "Research In Programs of Initial Physical Therapy Education."
Physiotherapy Canada 29:211-213.

Cyriax, J.

1970 "Manipulation By Physiotherapists."
Australian Journal of Physiotherapy 16:32-36.

1971 "Manipulation- By Laymen or Physiotherapists?"
Journal of the Canadian Physiotherapy Association 23:236-238.

Daniels, L.

1974 "Tomorrow Now: The Master's Degree For Physical Therapy Education."
Physical Therapy 54:463-473.

Danziger, J.N.

1979 "The 'Skill Bureaucracy' and Intraorganizational Control."
Sociology of Work and Occupations 6:204-226.

Dessler, G., and E.R. Valenzi

1977 "Initiation of Structure and Subordinate Satisfaction: A Path
Analysis Test of Path-Goal Theory."
Academy of Management Journal 20:251-259.

Dewhirst, H.D., and R.D. Arvey

1976 "Range of Interests VS Job Performance and Satisfaction."
Research Management 19:18-23.

Dingwall, R.W.J.

1974 "Some Sociological Aspects of 'Nursing Research'."
Sociological Review 22:45-55.

Downey, H.K., J.E. Sheridan, and J.W. Slocum

1975 "Analysis of Relationships Among Leader Behavior, Subordinate Job Performance and Satisfaction: A Path-Goal Approach."
Academy of Management Journal 18:253-262.

Dunham, R.B., F.J. Smith, and R.S. Blackburn

1977 " Validation of the Index of Organizational Reactions With the JDI, the MSQ, and Faces Scales."
Academy of Management Journal 20:420-432.

Dunkel, R.H.

1974 "Survey of Attitudes of Arkansas Physicians and Physical Therapists Toward the Professional Capacity of the Physical Therapist."
Physical Therapy 54:584-587.

Dyer, L., D.P. Schwab, and J.A. Fossum

1978 "Impacts of Pay on Employee Behaviors and Attitudes: An Update."
The Personnel Administrator 23:51-58.

Edwards, J.K.

1978 "Clinical Practice and Specialization- Avenues for Career Upward Mobility in the Health Care Institution."
Physiotherapy Canada 30:230-234.

Esposito, R.R.

1978 "Physicians' Attitudes Toward Early Intervention."
Physical Therapy 58:160-167.

Etzioni, A.

1964 Modern Organizations.
Englewood Cliffs, N.J.: Prentice-Hall Incorporated.

1969 The Semi-Professions and Their Organization.
New York: Free Press.

Evers, H.

1977 "Job Dissatisfaction Amongst Medical Secretaries: Some Organizational Considerations."
Social Science and Medicine 2:289-293.

Fisher, C.D.

1980 "On the Dubious Wisdom of Expecting Job Satisfaction to Correlate With Performance."
Academy of Management Review 5:607-612.

Fowler, J.R.

1961 "The School of Physical and Occupational Therapy, University of Alberta."
Journal of the Canadian Physiotherapy Association 13:21-24.

Frazer, F.W.

1978 "You Too Could Be A Doctor."
Physiotherapy 64:7.

Freidson, E.

1970 "Dominant Professions, Bureaucracy and Client Services."
in Organizations and Clients: Essays in the Sociology of Service.
W.R. Rosengren and M. Lefton (editors); Columbus, Ohio: Charles E. Merrill Publishing Company; pgs. 71-92.

Galley, P.

1975 "Ethical Principles and Patient Referral."
Australian Journal of Physiotherapy 21:97-100.

1976 "Patient Referral and The Physiotherapist."
Australian Journal of Physiotherapy 22:117-120.

1977 "Physiotherapists As First-Contact Practitioners."
Physiotherapy 63:246-248.

Gartland, G.J.

1977 "Synopsis of A Study of Admissions Criteria For Physical Therapy Programs."
Physiotherapy Canada 29:7-10.

Glaser, B.G.

1964 Organizational Scientists: Their Professional Careers.
Indianapolis: The Bobbs-Merrill Company Incorporated.

Godfrey, M.A.

1978 "Job Satisfaction."
Nursing '78 8:13-25.

Goetz, L.J.

1978 "Are PTs Assuming a Passive Role in the Care of Their Patients?"
Opinions and Comments. Physical Therapy 58:624-626.

Goldberg, A.I.

1976 "The Relevance of Cosmopolitan/Local Orientations To Professional Values and Behavior."
Sociology of Work and Occupations 3:331-356.

Goodwin, M.

1972 Correlates of Career Choice.
Vancouver: University of British Columbia.

Gordon, M.E., and R.D. Arvey

1975 "The Relationship Between Education and Satisfaction With Job Content." Academy of Management Journal 18:888-897.

Gouldner, A.W.

1957 "Cosmopolitans and Locals: Towards an Analysis of Latent Social Roles." Administrative Science Quarterly 2:281-306;444-480.

Government of Alberta

1955 Statutes of the Province of Alberta. The Chartered Physiotherapists Act. Chapter 43.

1980 Alberta Health and Social Services Disciplines Committee. Department of Advanced Education and Manpower:February, 1980.

Greene, C.N., and D.W. Organ

1973 "An Evaluation of Causal Models Linking The Received Role With Job Satisfaction." Administrative Science Quarterly 18:95-103.

Hall, O.

1970 The Paramedical Occupations in Ontario. Queen's Printer: Toronto.

Hall, R.H.

1967 "Some Organizational Considerations in the Professional-Organizational Relationship." Administrative Science Quarterly 12:461-478.

Helewa, A.

1979 "C.P.A. 1979 Congress- President's Address." Physiotherapy Canada 31:276-277.

1979 "The Referral Debate Continues."
Physiotherapy Canada 31:289-290.

Herzberg, F.
1966 Work and the Nature of Man.
Cleveland: World Publishing Company.

Heylings, J.
1954 "Our Profession."
Correspondence, Physiotherapy 40:123-124.

Hislop, H.J.
1975 "The Not-So-Impossible Dream."
Physical Therapy 55:1069-1080.

Hislop, H.J., and C. Worthingham
1958 "An Analysis of Physical Therapy Education and Careers."
The Physical Therapy Review 38:228-241.

Horowitz, L.M.
1974 Elements of Statistics For Psychology and Education.
New York: McGraw-Hill Incorporated.

House, R.J., A.C. Filley, and S. Kerr
1971 "Relation of Leader Consideration and Initiating Structure To R and D Subordinates' Satisfaction."
Administrative Science Quarterly 16:19-30.

Hurka, H.K.
1974 "Organizational Environment and Work Satisfaction."
Dimensions In Health Service 51:41-43.

Irving, G., and P. Foreman

1979 "Personality Characteristics of Physiotherapy Students."
Australian Journal of Physiotherapy 25:11-14.

Ivancevich, J.M.

1970 "An Analysis of Control, Bases of Control and Satisfaction In An Organizational Setting."
Academy of Management Journal 13:427-436.

1978 "The Performance To Satisfaction Relationship: A Causal Analysis of Stimulating and Nonstimulating Jobs.".
Organization Behavior and Human Performance 22:350-365.

Ivancevich, J.M., M. Matteson, and J.T. McMahon

1980 "Understanding Professional Job Attitudes."
Hospital and Health Services Administration 25:53-68.

James, L.R., and A.P. Jones

1980 "Perceived Job Characteristics and Job Satisfaction: An Examination of Reciprocal Causation."
Personnel Psychology 33:97-135.

Johnson, G.R.

1974 "Physical Therapy Education- The Future."
Physical Therapy 54:37-42.

Johnston, R.

1975 "Pay and Job Satisfaction- A Survey of Some Research Findings."
International Labour Review 111:441-449.

Kalleberg, A.L.

1974 "A Causal Approach to the Measurement of Job Satisfaction."
Social Science Research 3:299-322.

1977 "Work Values and Job Rewards: A Theory of Job Satisfaction."
American Sociological Review 42:124-143.

Kalleberg, A.L., and L.J. Griffin
1978 "Positional Sources of Inequality In Job Satisfaction."
Sociology of Work and Occupations 5:371-401.

Katz, F.E.
1965 "Explaining Informal Work Groups In Complex Organizations: The Case For Autonomy In Structure."
Administrative Science Quarterly 10:204-223.

1968 Autonomy And Organization: The Limits of Social Control.
New York: Random House Incorporated.

1969 "Nurses." in The Semi-Professions and Their Organization.
A. Etzioni (editor); New York: Free Press; pgs. 54-81.

Katz, F.M., K. Mathews, T. Pepe, and R.H. White
1976 Stepping Out: Nurses and Their New Roles.
Kensington, Australia: New South Wales University Press Limited.

Keaveny, T.J., J.H. Jackson, and J.A. Fossum
1978 "Are There Sex Differences in Job Satisfaction?"
The Personnel Administrator 23:55-58.

Keller, R.T., and A.D. Szilagyi
1978 "A Longitudinal Study of Leader Reward Behavior, Subordinate Expectancies and Satisfaction."
Personnel Psychology 31:119-129.

Kibbey, C.A.

1978 "PT, An Endangered Species?"
Opinions and Comments. Physical Therapy 58:482.

Kim, J., and F.J. Kohout

1975 "Special Topics in General Linear Models." in
Statistical Package For The Social Sciences.
N.H. Nie, C.H. Hull, J.G. Jenkins, K. Steinbrenner, and D.H. Bent
(editors); Second edition; New York: McGraw-Hill Company;
pgs. 368-397.

Kimble, G.A.

1978 How to Use (and Misuse) Statistics.
Englewood Cliffs, N.J.: Prentice-Hall Incorporated.

Kohout, F.J.

1974 Statistics For Social Scientists: A Co-ordinated Learning System.
New York: John Wiley and Sons.

Kornhauser, W.

1963 Scientists In Industry: Conflict and Accomodation.
Berkely: University of California Press.

Kronus, C.L.

1976 "Occupational Versus Organizational Influences On Reference
Group Indentification."
Sociology of Work and Occupations 3:303-330.

Lansbury, G.F.

1971 "Is Physiotherapy Truly Professional?"
Australian Journal of Physiotherapy 17:135-137.

Lawler, E.E., and L.W. Porter

1967 "The Effect of Performance On Job Satisfaction."
Industrial Relations 6:20-28.

Leslie, M.

1979 "The Building of an Infrastructure for Professional Independence and Political Action."
Physiotherapy Canada 31:280-283.

Love, J.E.

1977 "A Study of the Relationships Between Perceived Organizational Stratification and Individual Job Satisfaction and Adaptiveness in Hospital Laboratories."
American Journal of Medical Technology 43:1135-1143.

Lubkowski, J.

1974 "The Dilemma of A Diploma Graduate."
Physiotherapy Canada 26:30-31.

Lyon, H.L., and J.M. Ivancevich

1974 "An Exploratory Investigation of Organizational Climate and Job Satisfaction in a Hospital."
Academy of Management Journal 17:635-648.

MacEachron, A.E.

1977 "Two Interactive Perspectives on The Relationship Between Job Level and Job Satisfaction."
Organization Behavior and Human Performance 19:226-246.

Maimon, Z., and S. Ronen

1978 "Measures of Job Facets Satisfaction as Predictors of the Tendency to Leave or the Tendency to Stay With an Organization."
Human Relations 31:1019-1030.

Marcson, S.

1972 "Research Settings." in The Social Contexts of Research. S.Z. Nagi and R.G. Corwin (editors); London: John Wiley and Sons; pgs. 161-191.

1979 "The Autonomy of Scientists."
British Journal of Sociology 30:120-124.

Marsden, J.C.

1979 "Future Simple?"
Physiotherapy 65:83.

Martin, T.N.

1979 "A Contextual Model of Employee Turnover Intentions."
Academy of Management Journal 22:313-324.

Maslow, A.H.

1970 Motivation and Personality.
Second edition; New York: Harper and Row.

McKelvey, B., and U. Sekaran

1977 "Toward A Career-Based Theory of Job Involvement: A Study of Scientists and Engineers."
Administrative Science Quarterly 22:281-305.

McMahon, J.T., and J.M. Ivancevich

1976 "A Study of Control in a Manufacturing Organization: Managers and Nonmanagers."
Administrative Science Quarterly 21:66-83.

McPhee, B.

1977 "Physiotherapy- Open Minds?"
Australian Journal of Physiotherapy 23:165-169.

Mechanic, D.

1976 The Growth of Bureaucratic Medicine.
New York: John Wiley and Sons.

Mercer, J.

1978 Aspects of Professionalisation in Professions Supplementary to Medicine.
Unpublished Ph.D. Dissertation. London: University of London.

1980 "Physiotherapy as a Profession."
Physiotherapy 66:180-184.

Miller, G.A.
1967 "Professionals in Bureaucracy: Alienation Among Industrial Scientists and Engineers."
American Sociological Review 32:755-768.

1977 "Beyond Ad-Hocracy."
Pacific Sociological Review 20:43-59.

Mitchell, T.R., Smyser, C.M., and S.E. Weed
1975 "Locus of Control: Supervision and Work Satisfaction."
Academy of Management Journal 18:623-630.

Moore, D.W.
1978 "Specialization- Professional Growth or Fragmentation?"
Physiotherapy Canada 30:249-252.

Mueller, J.H., K.F. Schuessler, and H.L. Costner
1977 Statistical Reasoning in Sociology.
Third edition; Boston: Houghton Mifflin Company.

Mumford, E.
1970 "Job Satisfaction- A New Approach Derived From an Old Theory."
Sociological Review 18:71-101.

1972 Job Satisfaction.
London: Longman.

Munson, F.C., and S.S. Heda

1976 "Service Unit Management and Nurses' Satisfaction."
Health Services Research 11:128-142.

Mussallem, H.K.

1967 "Manpower Problems in Nursing."
The Canadian Nurse 63:25-28.

Nealey, S.M., and T.W. Owen

1970 "A Multitrait-Multimethod Analysis of Predictors and Criteria of Nursing Performance."
Organizational Behavior and Human Performance 5:348-365.

Nicholson, M.H.

1954 "Changes in Therapy Course at McGill."
Journal of the Canadian Physiotherapy Association 6:7-8.

Nordholm, L.A., and M.T. Westbrook

1979 "Graduating Physiotherapists' Perceptions of Their Career Choice."
Australian Journal of Physiotherapy 25:219-223.

O'Brien, G.E., and P. Dowling

1980 "The Effects of Congruency Between Perceived and Desired Job Attributes Upon Job Satisfaction."
Journal of Occupational Psychology 53:121-130.

Onuoha, A.

1980 "Demographic Characteristics of Educators in Physical and Occupational Therapy Programs in Canadian Universities."
Physiotherapy Canada 32:331-334.

Pady, A.

1974 "Degree VS Diploma- The Proposal Viewed by a Degree Graduate."
Physiotherapy Canada 26:29-30.

Palola, E., and W. Larson

1965 "Some Dimensions of Job Satisfaction Among Hospital Personnel."
Sociology and Social Research 49:201-213.

Pawlyn, C. and R. West

1978 "Grading Criteria."
Physiotherapy 64:151.

Peat, M.

1981 "Physiotherapy: Art or Science?"
Physiotherapy Canada 33:170-176.

Pelz, D.C., and F.M. Andrews

1966 "Autonomy, Co-ordination, and Stimulation in Relation to Scientific Achievement."
Behavioral Science 11:89-97.

Piercy, J.M.

1977 "Physiotherapy 1978: Implications of the New Course."
Physiotherapy 63:372.

Pollard, L.B.

1962 "Publish or Perish."
Letters to the Editor, Journal of the Canadian Physiotherapy Association 14:31.

Price, J.L.

1977 The Study of Turnover.
Ames: Iowa State University Press.

Probert, J.E.

1976 "Ethical Principles."
Correspondence, Australian Journal of Physiotherapy 22:53-54.

Prybil, L.D.

1973 "Job Satisfaction in Relation to Job Performance and Occupational Level. Personnel Journal 52:94-100.

Redfern, S.J.

1980 "Hospital Sisters: Work Attitudes, Perceptions and Wastage." Journal of Advanced Nursing 5:451-466.

Reeder, S.J., and H. Mauksch

1979 "Nursing: Continuing Change." in Handbook of Medical Sociology. H.E. Freeman, S. Levine, and L.G. Reeder (editors); Englewood Cliffs, N.J.: Prentice-Hall Incorporated; pgs. 209-229.

Rettig, S., and B. Pasamanick

1959 "Status and Job Satisfaction of Public School Teachers." School and Society 87:113-116.

Ritti, R.R.

1970 "Underemployment of Engineers." Industrial Relations 9:437-452.

Ross, C.A., L.W. Roberts, and L. Olson

1980 "The Doctor-Physiotherapist Relationship: The Physiotherapists' Perspective." Physiotherapy Canada 32:219-223.

Ruh, R.A., J.K. White, and R.R. Wood

1975 "Job Involvement, Values, Personal Background, Participation in Decision Making and Job Attitudes." Academy of Management Journal 18:300-312.

Sadler, P.J.

1970 "Leadership Style, Confidence in Management and Job Satisfaction." Journal of Applied Behavioral Science 6:3-19.

Salancik, G.R., and J. Pfeffer

1977 "An Examination of Need-Satisfaction Models of Job Attitudes." Administrative Science Quarterly 22:427-456.

Sauser, W.I., and C.M. York

1978 "Sex Differences in Job Satisfaction: A Re-Examination." Personnel Psychology 31:537-547.

Schwab, D.P., and L.L. Cummings

1970 "Theories of Performance and Satisfaction: A Review." Industrial Relations 9:408-430.

Schuler, R.S.

1976 "Participation With Supervisor and Subordinate Authoritarianism: A Path-Goal Theory Reconciliation." Administrative Science Quarterly 21:320-325.

Seashore, S., and T.D. Taber

1976 "Job Satisfaction Indicators and Their Correlates." in Measuring Work Quality For Social Reporting, A.D. Biderman and T.F. Drury (editors); Beverly Hills: Sage Publications; pgs. 89-124.

Semple, J.E.

1974 "Degree VS Diploma- In Support of a Degree For Full Membership in the C.P.A." Physiotherapy Canada 26:28-29.

Shepard, J.M.

1970 "Functional Specialization, Alienation and Job Satisfaction." Industrial and Labor Relations Review 23:207-219.

1973 "Specialization, Autonomy and Job Satisfaction." Industrial Relations 12:274-281.

Siegel, S.

1956 Nonparametric Statistics For The Behavioral Sciences.

New York: McGraw-Hill.

Silva, D.M., S.D. Clark, and G. Raymond

1981 "California Physicians' Professional Image of Physical Therapists."

Physical Therapy 61:1152-1157.

Slavitt, D.B., P.L. Stamps, E.B. Piedmont, and A.M. Haase

1978 "Nurses' Satisfaction With Their Work Situation."

Nursing Research 27:114-120.

Slocum, J.W.

1970 "Performance and Satisfaction: An Analysis."

Industrial Relations 9:431-436.

Smith, F.J., K.D. Scott, and C.L. Hulin

1977 "Trends in Job-Related Attitudes of Managerial and Professional Employees."

Academy of Management Journal 20:454-460.

Smith, P.C., L.M. Kendall, and C.L. Hulin

1969 The Measurement of Satisfaction in Work and Retirement.

Chicago: Rand McNally and Company.

Souder, W.E.

1974 "Autonomy, Gratification and R & D Outputs: A Small Sample Field Study."

Management Science 20:1147-1156.

Soutar, M.M.

1980 "The Clegg Report."

Letters. Physiotherapy 66:167.

Stamps, P., E. Piedmont, D. Slavitt, and A.M. Haase

1978 "Measurement of Work Satisfaction Among Health Professionals." Medical Care 16:337-352.

Statistics Canada

1976 Compendium of Selected Health Manpower Statistics. Ottawa: Statistics Canada, Catalogue No. 83-231, March.

1976 Hospital Statistics- Beds, Services, Personnel. Ottawa: Statistics Canada, Catalogue No. 83-227, February.

Stinson, J.E., and T.W. Johnson

1977 "Tasks, Individual Differences and Job Satisfaction." Industrial Relations 16:315-322.

Stirling, J.H.

1965 "The Difficulties of Private Practice." Correspondence, Physiotherapy 51:234.

Strilaeff, F.

1978 "How Work Organization Affects Nursing Turnover." Dimensions In Health Service 55:28-31.

Tannenbaum, A.S., and W.J. Kuleck

1978 "The Effect on Organization Members of Discrepancy Between Perceived and Preferred Rewards Implicit in Work." Human Relations 31:809-822.

Taveggia, T., and R.A. Hedley

1976 "Discretion and Work Satisfaction." Pacific Sociological Review 19:351-365.

Tebay, R.

1978 "Physiotherapy– A Developing Profession."

Letters. Physiotherapy 64:56.

Thomas, A., S. Horstein, M. Martin, T. Tilbury, M. Bolduc

1980 "Physiotherapy's Future: Student Views."

Physiotherapy Canada 32:98–99.

Thompson, C.

1973 "Educational Trends in Canada."

Physiotherapy Canada 25:97–106.

Ussher B., and L.S. Holley

1963 "A Survey of Inactive Physical Therapists."

Physical Therapy 43:100–104.

Van de Meene, L.W.

1978 "Can and Should Physiotherapists Specialize?"

Australian Journal of Physiotherapy 24:60–62.

Van Maanen, J., and R. Katz

1976 "Individuals and Their Careers: Some Temporal Considerations For Work Satisfaction."

Personnel Psychology 29:601–616.

Vroom, V.H.

1964 Work and Motivation.

New York: John Wiley and Sons.

Walker, J.M., and J.A. Gordon

1977 "Canadian Physiotherapy Educators: A Changing Pattern."

Physiotherapy Canada 29:12–14.

Walmsley, R., and G. Snewing

1970 "The Changing Role of the Physical Therapist in Canada."
Journal of the Canadian Physiotherapy Association 22:248-250.

Wandelt, M.A., P.M. Pierce, and R.R. Widdowson

1981 "Why Nurses Leave Nursing and What Can Be Done About It."
American Journal of Nursing 81:72-77.

Ward, A.W.M., C.M. Davidson, and B.J. Francis

1977 "Physiotherapists' Careers."
Physiotherapy 63:314-315.

Wardwell, W.I.

1979 "Limited and Marginal Practitioners." in
Handbook of Medical Sociology, H.E. Freeman, S. Levine,
and L.G. Reeder (editors); Prentice-Hall Incorporated; pgs. 230-250.

Weaver, C.N.

1974 "Correlates of Job Satisfaction: Some Evidence From
the National Surveys."
Academy of Management Journal 17:373-375.

1977 "Relationships Among Pay, Race, Sex, Occupational
Prestige, Supervision, Work Autonomy and Job Satisfaction in a
National Sample."
Personnel Psychology 30:437-445.

1977 "Occupational Prestige as a Factor in the Net Relationship
Between Occupation and Job Satisfaction."
Personnel Psychology 30:607-612.

Wellock, L.M.

1975 "Comparison of Opinions, Attitudes and Interests of Physical
Therapy Students With Other Students at the University of Michigan."
Physical Therapy 55:371-375.

White, C.H.

1980 "Where Have all the Nurses Gone and Why?"

Hospitals 54:68-71.

White, T.H.

1972 Power and Autonomy In Organizations.

Unpublished Ph.D. Dissertation. Toronto: University of Toronto.

Wilensky, H.L.

1964 "The Professionalization of Everyone?"

American Journal of Sociology 70:137-158.

Wiles, P.

1954 "Theory and Practice."

Correspondence. Physiotherapy 40:53.

Willemsen, E.W.

1974 Understanding Statistical Reasoning.

San Francisco: W.H. Freeman and Company.

Williams, A., B. Livy, R. Silverstone, and P. Adams

1979 "Factors Associated With Labour Turnover Among Ancillary Staff in Two London Hospitals."

Journal of Occupational Psychology 52:1-16.

Wonnacott, T.H., and R.J. Wonnacott

1977 Introductory Statistics For Business and Economics.

Second edition; Santa Barbara, California: John Wiley and Sons.

Woodbury, M.G., and M. Peat

1980 "Employment Patterns and Related Opinions: A Survey of Physical Therapists."

Physiotherapy Canada 32:11-16.

Worthingham, C.A.

1969 "The 1961 and 1965 Graduates of the Physical Therapy Schools." Physical Therapy 49:476-499.

1970 "Study of Basic Physical Therapy Education: V Request (Prescription or Referral) For Physical Therapy." Physical Therapy 50:989-1031.

1970 "Study of Basic Physical Therapy Education: VI Findings of the Study in Relation to Trends in Patient Care and Education." Physical Therapy 50:1315-1332.

Wright, J.D., and R.F. Hamilton

1979 "Education and Job Attitudes Among Blue-Collar Workers." Sociology of Work and Occupations 6:59-83.

Zaleznik, A., C.R. Christensen, and F.J. Roethlisberger

1965 The Motivation, Productivity, and Satisfaction of Workers– A Prediction Study. Boston: Harvard University.

VIII. Appendix

A. Questionnaire

The purpose of this questionnaire is to obtain job-related information from physiotherapists working in three Alberta settings: hospitals, private practices, and the Workers' Compensation Board Clinic. Although I am primarily interested in your attitudes toward your present work setting, you will be given an opportunity at the end of each question to provide opinions and comments based on other physiotherapy work-related experiences if you wish to provide extra information.

All responses will be kept in confidence. Your identity will not be known to me or anyone else. Code numbers only will be used in the computer analysis of the data obtained from this questionnaire. Neither your name nor the names of your supervisors or work place will be used in computer data files.

Part One- Demographic Factors

1. Age:

2. Sex:

3. Marital Status: married, single, other.

4. Basic Physiotherapy Education:
   country; year of graduation; type: diploma or degree

5. Other Post-Secondary Education:
   related to P.T.: not related to P.T.:

6. Present Physiotherapy Job Classification:

grade 1 therapist; grade 2 therapist; staff therapist in private practice

7. Present Work Setting:

hospital; private practice; W.C.B.

8. Past Physiotherapy Work Settings:

hospitals; private practices; W.C.B.; schools;
nursing homes; home care; community health care clinic;
child development centres; other- specify:

Part Two- Work-Related Factors

9. Approximately for how many months were you required as either an undergraduate or a graduate student to

   a. treat patients? before first P.T. job: since first P.T. job:

   b. study basic anatomy? before first P.T. job: since first P.T. job:

   c. study basic physiology? before first P.T. job: since first P.T. job:

10. How many courses were you required to take as either an undergraduate or a graduate student in

   a. basic pathology? before first P.T. job: since first P.T. job:

   b. research methods? before first P.T. job: since first P.T. job:

11. Since graduation from a first physical therapy programme

a. how many clinical specialization areas have you developed?

through independent study: through formal courses or meetings:

b. approximately how many hours do you spend each month to develop specific clinical interests (including activities such as learning new clinical skills, updating your anatomical knowledge, or keeping up with physiotherapy politics)?

through independent study: through formal courses or meetings:

c. how many different physiotherapy journals do you read each month (on average)?

12. In your present job

a. how many physiotherapists work directly under your supervision?

b. how many tasks other than direct patient care and treatment record keeping are you expected to perform?

specify other tasks:

Respondent's additional comments:

13. In your present job

a. how many medical practitioners regularily consult with you directly regarding patients' treatments?

b. how many medical practitioners regularily refer their patients directly to you and not through the department or a supervisor first?

c. how many medical practitioners refer certain patients to you because you have specific clinical interests?

Respondent's additional comments:

14. In your present job

a. which clinical services are you required to work in and which clinical services would you prefer to work in?

required services: preferred services:

b. how many clinical service rotations have you been required to participate in within the past 12 working months and how many rotations would you prefer to participate in within a 12 month period?

required number of rotations: preferred number of rotations:

c. why is this number of rotations your preference?

Respondent's additional comments:

15. When planning patients' treatments in your present work setting

a. how often are you able to choose the treatment techniques to be used without the approval of an immediate physiotherapy supervisor?

almost never occasionally frequently always

b. how often would you prefer to be able to choose the treatment techniques to be used without the approval of an immediate physiotherapy supervisor?

almost never occasionally frequently always

c. why is the above response your preference?

d. how often are you able to use patient caseloads to develop and experiment with more recent treatment techniques without restrictions of an immediate physiotherapy supervisor?

almost never occasionally frequently always

e. how often would you prefer to be able to use patient caseloads to develop and experiment with more recent treatment techniques without immediate supervisory restrictions?

almost never occasionally frequently always

f. why is the above response your preference?

Respondent's additional comments:

16. In your present work setting

a. how often are patients referred to you directly by medical practitioners in consultant relationships?

almost never occasionally frequently always

b. how often would you prefer to have patients referred to you directly by medical practitioners in consultant relationships?

almost never occasionally frequently always

c. why is the above response your preference?

d. how often are patients referred to you indirectly through the department, department supervisor, or immediate supervisor?

always frequently occasionally almost never

e. how often would prefer to have patients referred to you indirectly through the department supervisor, immediate supervisor, or department?

always frequently occasionally almost never

f. why is the above response your preference?

g. how often are patients referred to you directly in non–consultant relationships by medical practitioners?

almost never occasionally frequently always

h. how often would you prefer to have patients referred to you directly by medical practitioners in non–consultant relationships?

almost never occasionally frequently always

i. why is the above response your preference?

j. how often do patients come to you directly for treatment without a medical referral (you assess/treat patients and contact patients' doctors later)?

always frequently occasionally almost never

k. how often would you prefer to have patients come to you directly for treatment without medical referrals (you assess/treat patients and contact patients' doctors later)?

always frequently occasionally almost never

l. why is the above response your preference?

Respondent's additional comments:

17. At present

    a. do you intend to make clinical physiotherapy your major career?

    no undecided yes

    b. why is physiotherapy attractive or unattractive to you as a career?

18. Do you think that eventually physiotherapists should be educated to the graduate degree level as part of the basic training?

    a. Why do you think that all therapists should or should not have graduate degrees after studying a basic physiotherapy course?

19. Do you think that the career opportunities in clinical physiotherapy are sufficiently varied?

    a. If the answer to question 19-a. is 'no':

    In your opinion, what changes would you like to see made in the education of therapists and/or in the work settings which employ therapists so that career opportunities offered in clinical physiotherapy might be expanded?

Respondent's additional comments:

20. How many years have you worked as a qualified physiotherapist?

    a. How different times have you changed physiotherapy job during your physiotherapy career?

    b. For what major reasons would you leave a physiotherapy job?

Respondent's additional comments:

21. What type of work setting would you prefer to be working in approximately 3-5 years from the present?

    a. What type of work would you prefer to be doing in physiotherapy in approximately 3-5 years time?

    b. While you were a physiotherapy student, what type of career options did you expect to have in clinical physiotherapy?

    c. Now that you have some physiotherapy work experience, are you satisfied with the career opportunities offered in clinical physiotherapy?
    no   undecided   yes

    d. Why are you satisfied or dissatisfied with career options offered in physiotherapy?

    e. Why did you decide to become a physiotherapist?

22. In your opinion, do you think that physiotherapists should eventually treat patients without medical referrals– a therapist decides whether or not a patient's doctor should be contacted?

yes undecided no

a. What are your reasons for the above response?

Respondent's additional comments:

23. Would you describe the work you do now as

a. fascinating– yes no questionable
b. routine–
c. satisfying–
d. boring–
e. good–
f. creative–
g. respected–
h. hot–
i. pleasant–
j. useful–
k. tiresome–
l. healthful–
m. challenging–
n. on your feet–
o. frustrating–
p. simple–
q. endless–
r. gives a sense of accomplishment–

24. Do the following adjectives and short descriptive phrases decscibe your present salary?
    - a. income adequate for normal expenses- yes no questionable
    - b. satisfactory profit sharing-
    - c. barely live on income-
    - d. bad-
    - e. income provides luxuries-
    - f. insecure-
    - g. less than I deserve-
    - h. highly paid-
    - i. underpaid-

25. Do the following adjectives and short descriptive phrases describe promotion opportunities in your present job?
    - a. good opportunity for advancement- yes no questionable
    - b. opportunities somewhat limited-
    - c. promotion on ability-
    - d. dead-end job-
    - e. good chance for promotion-
    - f. unfair promotion policy-
    - g. infrequent promotions-
    - h. regular promotions-
    - i. fairly good chance for promotions-

26. Would you describe your physiotherapy supervisor as
    - a. hard to please- yes no questionable
    - b. asks my advice-
    - c. impolite-
    - d. praises good work-

e. tactful-
f. influential-
g. up-to-date-
h. does not supervise enough-
i. quick-tempered-
j. tells me where I stand-
k. annoying-
l. stubborn-
m. knows job well-
n. bad-
o. intelligent-
p. leaves me on my own-
q. around when needed-
r. lazy-

27. Would you describe physiotherapy co-workers in your present work setting as

a. stimulating- yes no questionable
b. boring-
c. slow-
d. ambitious-
e. stupid-
f. responsible-
g. fast-
h. intelligent-
i. easy to make enemies-
j. talk too much-
k. smart-
l. lazy-
m. unpleasant-
n. no privacy-

o. active–

p. narrow interests–

q. loyal–

r. hard to meet–